



**FINAL REPORT**

**TO**

**UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT**  
**REGIONAL CENTER FOR SOUTHERN AFRICA**  
**AND**  
**AFRICA BUREAU**

**THE IMPACTS OF STANDARDS ON THE FOOD SECTOR OF KENYA**

**5-26 AUGUST 2000**

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**APRIL 2001**

### Acknowledgement

This publication was made possible through support provided by the Regional Center for Southern Africa and the Africa Bureau, U. S. Agency for International Development, under the terms of Award No. DAN-A-00-91-00126-00. The opinions expressed herein are those of the authors and do not necessarily represent the views of the U.S. Agency for International Development.

### Suggested Citation:

Harris, Craig; P. Vincent Hegarty; Mylene X. Kherallah; Christopher A. Mukindia; Jane A. Ngige; Patricia Aust Sterns; and Jordan Tatter. 2001. *The Impacts Of Standards On The Food Sector Of Kenya*. East Lansing: Michigan State University and U.S. Agency for International Development, PFID-F&V Report No. 1.

## EXECUTIVE SUMMARY

During the period 5-26 August 2000, a team organized by the Agricultural Biotechnology Support Project (ABSP) and the Institute of Food and Agricultural Standards (IFAS) at Michigan State University (MSU) undertook an exploratory reconnaissance of the food and agricultural sector of the economy of Kenya, with the aim of identifying the impacts of grades and standards on the sector. During the period of the mission, the team gathered information from 31 growers, four transporters, eight processors, 11 researchers, four non-governmental organizations, and nine government officials. The team also conducted a specially organized technical workshop on fruit and vegetable standards and grades in Kenya.

After a brief overview of the agrifood sector as a whole, and discussion with key informants concerning significant issues relating to grades and standards, the team decided to focus its attention on the fruit and vegetable subsectors. In allocating its time and resources, the team attempted to follow several of the major fruit and vegetable commodities from the field of production through the channels of processing and distribution on to the points of sale to final users. This helped us to understand the multiple perspectives, on topics and issues concerning grades and standards, existing among the groups comprising the agrifood system.

### *Conclusions*

Our exploratory reconnaissance led us to the following conclusions.

1. The fruit and vegetable subsectors in Kenya are best visualized as composed of several strata with semi-permeable boundaries between the strata. The strata are arranged hierarchically in terms of strictness of grading and final price. Final prices for fruits and vegetables result both from this stratified structure and from market forces.
2. Although the strata are semi-permeable in the sense that both people and produce move back and forth between adjacent strata, it was not evident that stronger standards and stricter grades are trickling down the hierarchy.
3. The fruit and vegetable subsectors in Kenya are highly commoditized, and the language of standards and grades frames most of the developments and transactions in those industries. At the same time, there exist many situations where asymmetries of information enable downstream actors to benefit their own interests at the expense of the interests of upstream actors.
4. Although much attention has been paid to the significance of the pineapple industry, we feel that it is a case *sui generis*. The overwhelming dominance of one large vertically integrated transnational firm has no current or emerging analogues in any other fruit or vegetable commodities.

### *Recommendations*

The primary recommendations that emerge from this exploratory reconnaissance are (see section six for a full discussion):

1. Promote farmers' access to market information to prevent exploitation of farmers by traders;
2. Encourage transaction volumes large enough to reduce transaction costs. This can be achieved by promoting trade with groups of farmers rather than individuals;

3. Engage in activities to promote competition among traders to prevent monopsony control over the contracted crop;

In particular, areas in which activities by government and donor agencies would likely be effective are:

- Hold a stakeholders' forum, to review and recommend mandates and responsibilities according to areas of specialization. The forum should be organized in such a manner as to enable the relevant central Government and statutory and/or regulatory bodies to participate actively.
- Develop sustainable dissemination modalities to communicate pertinent information widely to stakeholders.
- Train and/or retrain staff to implement these more focused and clarified mandates and responsibilities.
- Support the relevant institutions to further develop their personnel and equipment capacity.
- Strengthen and empower the regulatory capacity to monitor and enforce issues of grades and standards, including goods and services, through incentives and disincentives by way of policy, laws, regulations, bylaws and guidelines.

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## IMPACTS OF STANDARDS ON THE FOOD SECTOR OF KENYA

Report of the Mission Organized By  
The Institute of Food and Agricultural Standards at Michigan State University  
5-26 August 2000

### **1. Introduction**

In response to a request from the Global Office and the Africa Bureau of the United States Agency for International Development (USAID), the Agricultural Biotechnology Support Project (ABSP) and the Institute for Food and Agricultural Standards (IFAS) at Michigan State University organized a mission to conduct an exploratory reconnaissance of the current situation of grades and standards in the agrifood sector of the economy of Kenya. The team for the mission consisted of eight persons.

- Craig K. Harris, Sociology of Food and Agriculture
- P. Vincent Hegarty, Food Laws and Regulations
- Mylene Kherallah, Agricultural Development Economics
- Christopher B. Mukindia, Agronomy and Marketing Extension
- Jane M. B. Ngige, Agrifood Systems Biology
- Virginia W. Kimani, Toxicology and Pest Management
- Patricia Aust Sterns, Agrifood System Economics
- Jordan B. Tatter, Fruit and Vegetable Storage and Transportation

Details about the members of the team are shown in Appendix A. While all members of the team contributed fairly equally to the work of the mission, it is worth noting that Jane Ngige was primarily responsible for local arrangements, and Patricia Sterns was the lead author of this report.

The team assembled in Nairobi on 7 August 2000. In addition to the thoughts of the various team members concerning the organization of the mission, the team also received extensive and useful guidance from the agricultural officers at the Kenya Country Mission of USAID and at the East Africa Regional Development Support Office (REDSO) of USAID. On the basis of these suggestions, the team organized a plan of work for the mission. The team considered the different kinds of grades and standards issues currently of concern with milk and dairy products, in the meat sector, in cash grain markets, and in the fruit and vegetable industries. It was our sense that the standards problems in the dairy industry were already receiving significant attention, and that the standards problems in the meat and cash grain subsectors were not yet formulated and thus would be difficult to address with a brief reconnaissance. Thus we chose to focus on standards and grading issues in the fruit and vegetable subsectors

During the next 2.5 weeks, the team met with a variety of persons involved with standards and grades in the fruit and vegetable subsectors, including:

- 31 growers
- Four transporters
- Eight processors (five for the export market, six for the domestic market)
- 11 university and government researchers
- Four leaders of non-governmental organizations (NGO's)
- Nine government officials (e.g., Standards, Agricultural Research)

In addition, the team conducted a specially organized workshop on the role of standards in the agrifood system in Kenya (see Appendix E). A complete list of the persons interviewed and consulted by the team is contained in Appendix B.

## **2. The Role of Standards, Grades, Laws and Regulations in the Agrifood System**

In the perspective of laissez-faire liberalism, food laws and regulations must accomplish certain functions in order to assure the effective functioning of markets. These functions include:

- Protect public health
- Convey information to consumers
- Protect against fraud
- Assure fair trade practices
- Protect the environment where the food is consumed

In the perspective of welfare state liberalism, food laws and regulations may seek to accomplish certain additional functions, including:

- Protect the environment where the food is produced
- Assure acceptable working conditions for labor (e.g., fair compensation)
- Assure acceptable conditions of production (e.g., animal welfare)
- Assure equitable relations of production and exchange (e.g., cooperatives)

Each of the above applies to some extent to the fruit and vegetable industry in Kenya with respect to both domestic consumption and export markets.

Food laws in Kenya are established as Acts of Parliament. Different ministries enforce food laws and regulations. Kenya has a number of food safety and control laws with implications for the fruit and vegetable industry. Mrs. Margaret Aleke, Senior Standards Officer, Kenya Bureau of Standards outlined these laws at the *Standards and Grades in Horticulture Technical Workshop*, Naro Moru, August 15-17, 2000,. In summary, these laws provide assurance that:

- ✓ The agricultural inputs are safe
- ✓ Control mechanisms are in place
- ✓ Food consumed is produced and handled in a hygienic manner
- ✓ Standards are available
- ✓ The consumer is protected from health hazards.



These objectives are achieved by a number of acts including:

***The Public Health Act Cap 242:***

- Provides for the protection of human health
- Provides for the prevention of the spread of disease

***The Food, Drugs, and Chemical Substances Act Cap 254:***

Provides for the prevention and control of food adulteration by:

- Providing for hygienic production, storage, distribution and handling
- Licensing of food manufacturers premises
- Providing for appropriate packaging and labeling of food
- Providing for limits of food contamination
- Providing for limits of pesticide residues

***The Pest Control Products Act Cap 346:***

- Regulates and controls the use of products for the control of pests
- Establishes the Pest Control Produce Board which assesses pest control products for safety, efficacy, quality and economic value and licenses various categories of pesticide traders and to generally advise the Kenya government on choice of pest control products in the country.

***The Agricultural Produce Act Cap 319:***

- Provides for grading and inspection of produce
- Regulates the preparation and manufacture of produce
- Provides for certification of exports through the Horticultural Export Inspection Services.
- Establishes the Horticultural Crops Development Authority for the purpose of supervision and control of the production, distribution, and marketing of horticultural crops

***The Standards Act Cap 496:***

- Provides for the establishment of the Kenya Bureau of Standards (1974); and specifies its functions, including to promote standardization in industry
- Empowers the Kenya Bureau of Standards to prevail in cases of conflict with standards under other Acts

Kenyan fruit and vegetable exporters must comply also with the laws and regulations of the countries importing Kenyan produce. This necessitates a detailed knowledge of existing laws and regulations, and potential changes in the laws, in importing countries.

### **3. The Fruit and Vegetable Subsectors In Kenya**

The fruit and vegetable subsector has undergone substantial growth in the last 20 years. The horticultural industry (including fresh-cut flowers as well as fruits and vegetables) is an important source of foreign exchange earnings, ranking third among agricultural export commodities after tea and coffee. In 1999, Kenya exported 15,595

tons of fruit valued at 16 million U.S. dollars<sup>1</sup> and 46, 377 tons of vegetables valued at 74 million U.S. dollars. It is an import source of domestic food with exports only accounting for four percent of total production. In addition it is an important source of employment; the industry employs about two million people directly and another estimated 0.5 million indirectly.<sup>2</sup>

### **3.1 Grades and Standards and Laws and Regulations**

Due to the importance of the fruit and vegetable subsector in exports and domestic food production, the industry provides an interesting model for a case study of grades and standards and food laws and regulations. The need to meet standards in the export market has led to the development of a complex system of production and management. The successes and failures of meeting these standards, as well as current challenges, provide the data necessary for a full evaluation from which lessons can be drawn. Current demands to meet traceability, social, and environmental standards present major challenges for the fresh and processed export markets. How the industry adapts to these challenges will have a major impact on the structure of the industry, particularly who is included and excluded from the market, which in turn affects income generation and distribution. Moreover, the lessons learned from meeting export standards, particularly technology adoption and management capacity building, can have spill over effects into the domestic market for fruits and vegetables.

Additionally, certain inherent characteristics of horticultural commodities require an effective system of grades and standards in order to produce quality products and maintain quality all the way to the final consumer. The high rate of perishability both necessitates a cold chain to maintain quality, and a grading system that can measure reliably whether quality has decreased while in the cold chain. Extended production cycles for some fruit and vegetable commodities necessitate systems of standards and distribution that will make it possible to recoup the high initial investment. High labor intensiveness both places a greater burden on the enhancement of human skills in order to maintain standards, and at the same time raises the salience of standards for labor equity. The high level of technical and management skills required for specialized production and post-harvest inputs necessitate systems of standards and distribution that will allow just compensation for those skills. High seasonality of production and demand necessitate that the factors of production be well compensated during the productive season. Potential economies of scale in some post-harvest and processing operations would be lost if systems of standards and distribution did not make it possible to earn a good return on investment.

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<sup>1</sup> This is a rounded value using an exchange rate of 77 Kenyan Shilling to one U.S. dollar. Actual values reported by HCDA are for fruit and vegetables are 1,256 million Kenyan Shillings and 5,713 million Kenyan Shillings, respectively.

<sup>2</sup> See the Kilimo Horticultural Report for more information.

## 3.2 Overview of fruits and vegetables commodity systems

Generally fruits and vegetables are grouped together due to similar handling requirements with respect to perishability, mode of preparation and eating, nutritional value, storage environments and distribution channels. In this respect, issues of standards and grades of fruits and vegetables are often handled together.

The Kenyan fruit and vegetable subsector consists of two distinct markets: the export market and the domestic market. Within each of these markets, activities can be classified as markets for fresh and processed fruit and vegetable products. This section presents a general overview of the four market segments that comprise the fruit and vegetable subsector in Kenya: the export market for fresh fruits and vegetables, the export market for processed fruits and vegetables, the domestic market for fresh fruits and vegetables, and the domestic market for processed fruits and vegetables.

### 3.2.1 Export market for fresh fruits and vegetables

The major export markets for fresh fruits and vegetables are Western Europe, the Middle East, and East Africa. See Table 1 for the main destinations of Kenya's fruit and vegetable exports. In Europe, the United Kingdom (UK) is the largest export market. Other significant customers are France, Germany, the Netherlands, and Belgium. The Scandinavian countries are also emerging as potentially lucrative markets. UK supermarket standards are the highest and most difficult to meet. Continental European supermarket standards are also high but less demanding in part due to differing legal systems.<sup>3</sup> Also, supermarkets in continental Europe do not hold as high a market share as those in the UK.

**Table 1: Main Destination of Kenya's Fruit and Vegetable Exports**

| Current markets                       | Percentage of fruit exported from Kenya | Percentage of vegetables exported from Kenya |
|---------------------------------------|---|--|
| Europe                                | 70.5                                    | 95   |
| Middle East                           | 17.5                                    | 3  |
| Regional Markets (mainly East Africa) | 12                                      | 2  |

Source: Thiru (2000)

The most important export vegetables are French beans, snap beans, snow peas, and Asian vegetables (okra, baby corn, karella or bitter gourd,<sup>4</sup> eggplant, chilis, and capsicums or peppers). See Table 2 (on the next page) for the composition of Kenya's fruit and vegetable exports. Kenya is the leading supplier to the EU of French beans, snow peas, eggplant, and capsicums.

<sup>3</sup> Due diligence refers to managing the production, harvesting, transportation, processing and storage of fruits or vegetables in ways that ensure their conformity to safety and quality standards. For Kenyan producers and marketers, what is most important is maintaining appropriate records of these activities. It was suggested that a good set of records will overcome restrictions on imports.

<sup>4</sup> A bitter gourd that is approximately 10-15 cm in length and 4-7 cm in diameter, with a thick, rough spiny skin; it is harvested mature but unripe.

**Table 2: Composition of Kenya's Fruit and Vegetable Exports**

| Fruits        | Percent of total fruit exports | Vegetables   | Percent of total vegetable exports |
|---------------|--------------------------------|--------------|------------------------------------|
| Avocados      | 59.2                           | French beans | 30.9                               |
| Mangoes       | 25.6                           | Canned beans | 17.3                               |
| Passion fruit | 6.0                            | Okra         | 5.8                                |
| Strawberries  | 4.8                            | Karella      | 3.8                                |
| Pineapple     | 3.0                            | Snap beans   | 2.5                                |
| Other         | 1.4                            | Frozen beans | 2.3                                |
|               |                                | Eggplant     | 1.2                                |
|               |                                | Chillies     | 1.1                                |
|               |                                | Other beans  | 11.1                               |

Source: FPEAK Magazine (2000)

Fresh fruit exports are smaller than vegetable exports. Important fruit exports include avocados, mangoes, passion fruit, and strawberries. Fresh pineapple exports are small due to Del Monte's strategic decision to concentrate solely on the processed market. See Figures 1 and 2 (on the next page) for the volume and value of fresh fruit and vegetable exports.

The marketing system for fresh fruits and vegetables for export is presented in Figure 3 (on page 32). There are over 200 licensed fresh produce exporters in Kenya. However, only 50 are consistently operational while the other 150 exporters exploit favorable short-term market conditions, entering and exiting the industry sporadically during the October-April peak season (Dolan *et al.* 2000). Among these 50 active export firms, four large firms dominate the export market.

Exporters obtain produce from a variety of different types of producers using several types of transactions. Fruit and vegetable growers can be categorized by size into four groups:

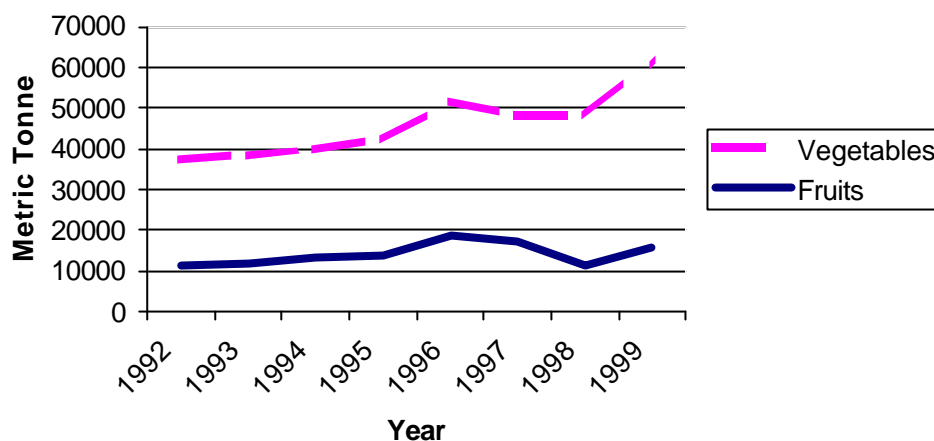
1. Small-scale producers or "outgrowers" are farmers with less than 10 acres.
2. Medium-scale producers are farmers with between 10 and 20 acres.
3. Large-scale producers are farmers with between 20 and 200 acres.
4. Plantations are farms with more than 200 acres of production.

Reliable statistics on the number of farmers in each group, how much they are producing, and for which market are not available. The Ministry of Agriculture statistics are estimations. Reports on the contribution of small-scale producers to export production vary widely. The Horticultural Crops Development Authority (HCDA) estimates that 70 percent of vegetable production and 40 percent of fruit production for export is from small-scale producers.<sup>5</sup> Dolan *et al.* (2000) reported that the overall share of small-scale production in fresh fruit and vegetable exports had dropped to less than 30 percent by the mid 1990s.

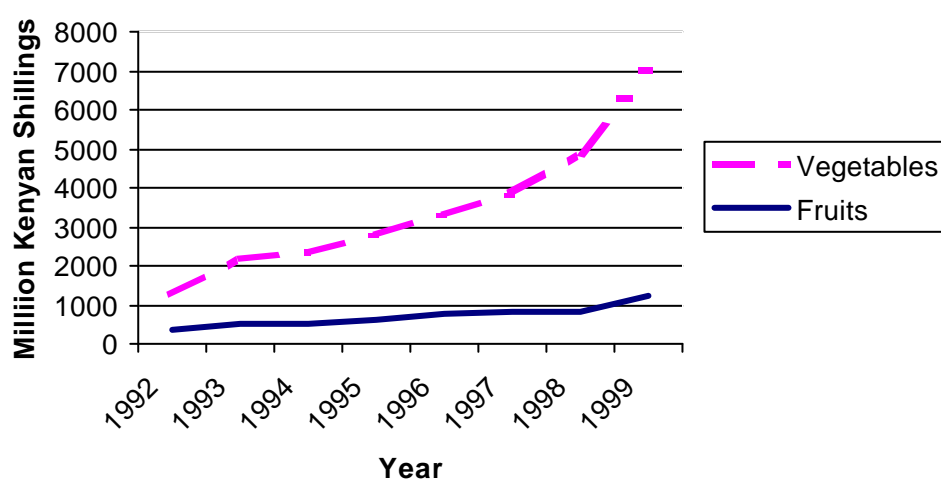
Transactions occur along a continuum of market coordination from spot market transactions to vertical coordination. Most of the large and medium-scale exporters operate a vertically integrated production system as well as sourcing from the different types of producers.

<sup>5</sup> It is not clear what year or years these figures represent.

**Figure 1: Kenyan Export Volume for Fresh Fruits and Vegetables**



**Figure 2: Value of Kenyan Exports of Fresh Fruits and Vegetables**



Exporters use two channels to obtain produce from small-scale producers. The first channel is direct contact with a group of small-scale producers. The relationship between exporter and small-scale producer is governed by several different arrangements. There are three types of governance structures for direct contact between small-scale producers and exporters (Kamau 2000, Jaffee 1995).

1. *Informal market arrangements* (market reciprocity agreements) are highly personalized repeat transactions in which some degree of loyalty is built up between the exporter and a certain group of growers. Produce is usually exchanged at the current market price. Although no inputs are provided, some technical advice on variety selection and harvesting and handling practices is usually transmitted to the farmers.
2. A *forward market contract* is a formal commitment to buy and sell specific quantities and qualities of produce at a particular time. Prices may be agreed to in advance or at the time of actual exchange and the buyer is not involved in the production process or in providing inputs to farmers. These contracts are more common for larger-scale farms where the farmer can afford to buy his inputs and has more advanced technical and managerial skills.
3. *Production contracts* (interlinked factor market contracts) are formal agreements to buy and sell a specific quantity and quality of produce at a specific price. They are often referred to as "outgrower schemes." This type of transaction is most common for fresh exported vegetables including French beans, snow peas (mangetout), sugar snaps, and Asian vegetables. In outgrower schemes, farmers are usually organized into groups of 15 to 30 members to facilitate coordination of activities, technical assistance, and supervision. The exporter provides a specific quantity of seeds on credit (to ensure quality seeds are planted), and technical advice on chemical use and agronomic practices. Farmers pay for the seed at the end of the season when traders deduct input costs from the total value of the produce. The buyers may have field officers who visit the farmers' fields on a regular basis to ensure quality control and proper use of inputs. Some exporters may spray pesticide for the farmers in order to ensure meeting the Maximum Residue Levels (MRL's) and the buyers' requirements for due diligence in pesticide use. In some cases, farmers have to follow a specific production program set by the buyer with specified times for planting and harvesting in order to provide a sequential and continuous supply of produce. The exporter often provides transport from the farmer group storage and grading area.

The second channel that exporters use is brokers. There are two types of brokers -- exporter agents and independent brokers. Exporter agents are paid a commission based on the volume of sales for providing certain services. These include identifying and recruiting farmers, communicating short-term information to farmers regarding exporter quantity and timing requirements, communicating information about expected prices, informing the exporters about local supply and competitive conditions, distributing packaging materials to farmers, issuing payments to farmers, and providing a grading shed where farmers deliver their crops and the exporter collects them. Independent brokers buy produce from producers and then sell it to an

exporter. These brokers have limited access to market information which they may transmit sporadically to producers.

Both types of brokers provide transportation. Some brokers have their own trucks for transportation. Others hire a truck to provide transportation. The price paid to the growers is determined by the broker, based on the current spot market prices. Generally, brokers pay farmers cash at the point of transaction. However, in some cases, especially with independent brokers, payment to the farmer is not made until the broker receives payment from the exporter.

Smaller exporters and seasonal exporters use brokers to buy their produce. Larger exporters favor some type of contractual arrangement but also use spot market purchases to fill gaps.

Exporters obtain produce from medium-scale producers through the same channels as small-scale producers. Because medium-scale producers produce larger volumes than smallholders, they may individually develop reciprocal agreements or contracts directly with exporters rather than contracting through a farmer group or a broker. They could also be in a better bargaining position with respect to brokers but this depends on the level of market knowledge and information the farmer possesses. Exporters use forward market or production contracts to obtain produce from large-scale producers and plantations.

Exporters sell produce to importers, usually concentrating on one or two countries. The importers then sell the produce through two channels. In the first channel, the importer sells the produce to wholesalers who service the retail and food service sectors. The final product is delivered to consumers through a variety of retail outlets including supermarkets, green grocers, and fruit and vegetable stands. The food service sector, which includes restaurants, school and work cafeterias, and hospitals, is a growing outlet for food expenditures. The second channel used by fruit and vegetable importers is to bypass wholesalers and sell directly to supermarkets and food service outlets.

Most of the large exporters have a subsidiary firm for logistical services including cold storage, handling, and shipping. Independent logistics companies provide these services for small and medium-scale exporters.

Most of the medium and large-scale exporters are involved in some type of value-added activities include washing, trimming, packaging, bar-coding, and labeling. The size and sophistication of these activities depends on the exporter's ability to invest in the necessary equipment and management resources and its customer base. Export packhouses have varying degrees of quality control programs. Some supermarkets require that all exporters who are packing for them must have a Hazard Analysis and Critical Control Points (HACCP) food safety management program. Also, some medium-scale exporters who are doing fresh packs for the wholesale market are implementing HACCP programs before they seek direct ties with a supermarket.

A full analysis of this market is beyond the scope of this reconnaissance mission. One approach to such an analysis would suggest that consumers are a driving force in this

market, and that consumer demands dictate the quality standards that retailers set. In support of this approach, one might argue that in Europe the consumer lobby groups in importing countries such as FIAN of Germany, and Christian Aid of UK, are a force to reckon with, and that they derive their influence from consumers who have been sensitized, wrongly or rightly, to the issues of quality assurance. This approach would suggest that enhanced consumer awareness of health and production conditions and food safety issues results from effective education and dissemination of pertinent information such as the effects of pesticide residues, environmental degradation, workers' lack of wellbeing, and problems in the international food system like "mad cow disease". A proponent of this view might argue that Sainsbury's and other retailers gather data on consumer perceptions and preferences, and then design specifications and regulations for suppliers to satisfy the consumers' standards.

A second approach would suggest that standards originate in retailer marketing strategy, and that retailers use standards as ways of gaining competitive advantage over other sellers less able to assure those standards. A third approach would suggest that it is the legal institutions that are the major influence on standards. In this particular situation, the due diligence provisions of the UK food law have led to much of the quality and traceability demands being placed on exporters selling produce to that market.

Whichever of these three approaches one espouses, the point is that Kenyan exporters are having to meet quality standards demanded by the importing buyers. The implementation of the standards is through negotiations with all stakeholders of the horticulture industry from employees to consumers. This in turn affects the choice of governance structure of transactions. In order to meet the quality standards demanded, exporters are using more production contracts and vertically integrated production arrangements.

### **3.2.2 Export market for processed fruits and vegetables**

The major export markets for processed fruits and vegetables are Western Europe and other African countries. Important processed products are canned pineapple, pineapple juices and concentrates, and canned French beans.

Del Monte canned pineapples, juices, and concentrates account for the bulk of the exports of processed fruits and vegetables. Del Monte is a vertically integrated firm growing and processing pineapples on its plantation in Thika.

The other major Kenyan export item is canned French beans. Processors obtain French beans from small and medium-scale producers using forward market and production contracts. Generally they only use spot market transactions to fill supply gaps.

Processors produce products both under their own label and under retail private-label brands, as well as co-packing for other processors and/or brand names. Examples are Del Monte and Njoro who can both (1) under their own labels, and (2) under private retail labels, and who also co-pack both (3) for other processors under those processors' labels, and (4) for the Auchan brand name through a broker rather than



through a direct arrangement. Processors sell products through several channels. First, they may sell ingredients, such as juice concentrate, to re-manufacturers. Second, they sell products directly to retailers (contracted as a co-packer for a retail label, either directly by the supermarket or through a broker). Third, they sell products to a wholesaler either directly or through an importer. The wholesaler then sells to a retailer or food service company who then sells the product to the final consumer.

### **3.2.3 Domestic market for fresh fruits and vegetables**

The main commodities produced for the local market are cabbages, sukuma wiki (a leafy green vegetable like kale), melons, potatoes, tomatoes, passion fruits, bananas (cooking and table), avocados, coconuts, citrus, mangoes, pineapples, plums, and papayas (also called paw paws).

The domestic market for fresh fruits and vegetables can be classified into two categories -- rural and urban. The structure of the rural market is informal. Mainly small and medium-scale producers supply this market. The most common channel is that producers sell their produce to brokers who then sell to a retail trader at a local market. However, the number of times produce changes hands depends on the capacity (transportation access, etc.) and specialization (time and knowledge constraints) of the different actors. In some cases, farmers with their own transport may sell directly to a trader at a local market. Because of time constraints and lack of experience, farmers rarely act as traders, selling directly to consumers at local markets. Most farmers do not own a truck so transportation is provided by the broker who may also relay some market information. Some brokers own their own trucks for transportation. Others hire a truck to provide transportation. There are two types of rural "retail" outlets. First, in larger villages there may be a covered market facility with fruit and vegetable stalls. Second, the most common form of retailing is street or roadside, open-air markets. In some cases traders may have wooden kiosks or tables and in other cases, the produce is laid out on the ground on a piece of cloth, paper, plastic, or directly on the ground.

The urban market is more complicated with fruit and vegetable retailing taking place in a range of environments from road-side selling to up-scale green grocers. There are four retail segments in the urban market: up-scale green grocers, supermarkets, formal constructed markets, and street hawkers.

The highest quality products are found at up-scale green grocers. These grocers usually source their products from small, medium and large-scale producers via informal market agreements. Some of them are also involved in vertically integrated production. They import produce that is not grown locally or when they cannot get the necessary quality locally.

There are three major urban supermarkets -- Uchumi, Nako Mart, and Metro Cash and Carry. Fresh fruits and vegetables are a relatively new product line for supermarkets in Kenya, having been added over the last three or four years. They import produce, like apples and dates, that are not produced locally. Supermarkets procure produce from a variety of sources. They buy produce directly from medium and large-scale producers and plantations through market reciprocity agreements and spot market

transactions. They also obtain produce from brokers who purchase from small and medium-scale farmers. Supermarkets are also sourcing pre-packaged vegetables, specifically French beans and Asian vegetables, from exporters. They require the producers and brokers to deliver the produce to individual stores or to a central distribution center.

Fruit and vegetable retail traders sell to consumers in covered, constructed markets or in street/road-side markets. These traders obtain produce from the wholesale market or brokers, both of which are predominantly supplied by small and medium-scale producers. There is a large fruit and vegetable wholesale market in Nairobi where farmers with access to transportation and brokers sell produce to retail traders and other brokers. There are similar wholesale markets in other cities and larger towns.

Small-scale producers access the domestic market through brokers. Transportation and market information are provided by the broker. A very small number of small growers own a truck or have access to transportation. In such cases, the farmer (or group of farmers) can sell directly to traders at the wholesale market.

Medium-scale producers also access the domestic fresh market through brokers. They may also sell directly to traders at the wholesale market if they have their own transportation or access to transportation (this could be that they have the cash to hire transport).

Plantations tend to concentrate on the export market only, selling the lower quality produce that did not meet the export standards in the local market. An interesting exception is Del Monte. Del Monte sells fresh pineapples to the local market, mainly through its own kiosks.

Quality in the constructed markets is usually higher than in the street/road side markets. Often the discarded produce from these markets is sold to street traders, but some very good quality produce also reaches the street/road side markets. At the same time, the hygienic conditions vary from fairly good to poor in the covered markets, usually decreasing with the income level of the neighborhood in which the market is located. The hygienic conditions of the street/road-side markets are poor.

Levels of consumer awareness and concern about quality and safety issues is presumably highly varied among the population, but no data were identified which described the amount of variation or the correlates of the variance (e.g., income, education, location). Presumably the ability to act on quality and safety issues declines with buying power (disposable income). Very often convenience is a key factor in determining where consumers buy their groceries. One place where consumer demands for quality are a factor is in the up-scale green grocers.

The food service segment is also quality segmented with the hotels, safari lodges, and up-scale restaurants requiring the highest quality. Lower-end restaurants and institutions do not set high quality standards.

### 3.2.4 Domestic market for processed fruits and vegetables

Important processed products are canned tomatoes and tomato products, canned French beans, fruit juices and juice concentrates, sauces and chutneys, and jams. There is a small frozen food processing segment, focusing mainly on beans, peas and pre-fried potatoes (chips).<sup>6</sup>

A wide range of fruit and vegetable processing facilities exists in Kenya. These range from modern, fully integrated plantation processors like Del Monte to micro-enterprises -- very small home/street operations. The processing industry can be broken into four segments: integrated plantation processors, modern mechanized processors, cottage industry processors, and micro-enterprises.

The major integrated plantation processor in the Kenyan market is Del Monte. The Del Monte plantation and processing plant in Thika produces a range of canned pineapple products and juices. Historically, less than one percent of production was sold in the local market. However, this has increased to 10 percent in recent years due to local pressure.

Modern mechanized processors produce a large volume of processed goods for the domestic market. These processors source products from small and medium-scale producers through spot market transactions, informal market agreements, forward market contracts, and production contracts. They also source produce from brokers who buy produce from small and medium-scale producers. As discussed earlier, contracts with small-scale producers are often through producer groups.

Processors sell their products through a variety of channels. First, they sell ingredients, like juice concentrate and dried vegetables, to re-manufacturers. Second, they sell products directly to the supermarkets. Third, they provide products to wholesalers. Wholesalers then sell products to the supermarkets, small general grocers, grocer kiosks, and food service customers.

Small “cottage industry” processors produce products like sauces, jams, pickles, and chutneys, with traditional cooking methods (open fire) and hand packing and labeling. These processors source most of their products directly from small and medium-scale producers through spot market transactions and informal market agreements. They also buy produce from brokers. These processors sell their products in the usual mainstream channels. They sell directly to the food service industry, especially hotels, and supermarkets in addition to selling to wholesalers.

Micro-enterprises are generally operated out of individuals’ homes. They make products like juice drinks, sauces, and chutneys. They source raw materials from the wholesale market and from brokers who buy from small and medium-scale producers. Products are sold through street hawkers and in kiosks and small grocers. This is a very informal segment without any apparent quality standards or enforcement of hygiene standards.

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<sup>6</sup> One processor is in the planning stages for French fried potato (chips) production targeted mainly at fast food outlets.

#### **4. Current Situation**

##### **4.1 Current Situation of Grade and Standards and Laws and Regulations in Kenya**

###### **4.1.1 Grades and Standards in the Export Market for Fresh Fruits and Vegetables**

Governments of individual European countries, the European Union (EU), and other importing countries have set basic minimum grades and standards that importers and exporters must meet. Additionally, some individual buyers, particularly supermarkets, have set their own grades and standards that their suppliers must meet. The Kenyan Government through the Kenya Plant Health Inspectorate Services (KEPHIS) visually inspects all exports to ensure that they meet the basic grades and standards of the targeted receiving country. KEPHIS sets its inspection standards based on the government grades and standards of the receiving country.

The current existing grades and standards can be grouped in four categories.

1. Grades and standards that relate to **phyto-sanitation, microbial contamination, and chemical residues** are **mandatory** standards for all exporters, set by regulatory agencies in importing countries.
2. Grades and standards that relate to **quality attributes** of the produce such as color, size, taste, appearance, texture, uniformity and packaging are set by the buyers. These grades and standards are **obligatory** for specific exporters. These standards vary from place to place and from time to time depending on consumer preferences and trading norms.
3. Grades and standards that relate to **social and environment** issues are newly emerging market requirements that are mostly **voluntary**. The strictness of conformity to these standards varies from market to market. These standards are being developed through negotiations with all stakeholders of the horticulture industry from employees to consumers. Sometimes they are embodied in **codes of practice**, which set the rules, regulations and practices that producers and exporters must meet. In fact the pressure to implement these standards comes directly from the importing countries; the local stakeholders are generally trying to make feasible practices based on the requirements. Hence they have developed the various codes of practice such as Fresh Produce Exporters Association of Kenya (FPEAK), Kenya Flower Council, Flower Label Program, Market Produce Standards, etc.

The main objective of these standards is to ensure humane treatment of employees, ensure safety (of the workers, bystanders and consumers), reduce use of agrichemicals, and promote the conservation of the environment. With the exception of supermarkets in the UK and Holland, these standards are yet to gain significance in the market. However, current trends suggest that the

importance of these standards will increase and that eventually they will play a very significant role in access to markets. Already UK supermarkets are very strict on compliance with these standards by their suppliers. The importers appoint third party inspecting bodies to periodically verify conformance to these specifications.

4. There is a growing demand for **organically produced fruits and vegetables** in most of the affluent markets where consumers are able to afford the significantly higher prices. The grades and standards relating to organic produce are very high. Growers have to be certified by a body that meets the accreditation regulations of the importing country; in many cases this is satisfied by the international organic produce organization (IFOAM). In Kenya the Association of Better Land Husbandry (ABLH) is currently supporting an initiative through the Soil Science Organization of the UK to have some of the growers certified as organic produce growers; however, this is still at the planning stage.

#### **4.1.2 Grades and Standards in the Domestic Market for Fresh Fruits and Vegetables**

The Kenya Bureau of Standards (KEBS) has set standards for certain fresh fruits and vegetables through its technical committees. However, there is no evidence of the implementation or enforcement of any grades and standards in the local markets for fresh produce. Some grading is done by traders according to size, weight and appearance.

#### **4.1.3 Grades and Standards in the Markets for Processed Fruits and Vegetables**

The grades and standards followed by most processors are set by the KEBS [a government parastatal in charge of setting and supervising the implementation of grades and standards in Kenya]. KEBS develops these standards through technical committees drawn from the relevant stakeholders. Processors are then required to purchase the standards document and implement it fully. KEBS currently carries out visits to ensure compliance, although reports of the frequency of the visits vary greatly. Samples of products are also normally taken and analyzed for conformance. Processors pay various levies to KEBS depending on the size of business and type of logo used. KEBS issues a quality label, "the diamond mark," to processors who meet the strictest quality standards. Processors selling to the regional and local markets are of the opinion that the standards set by KEBS are adequate, but they often set their own company standards, which are stricter.

For exported processed fruits and vegetables, the scenario described above in section 4.1.1 for fresh produce applies; actors in the importing markets set the grades and standards to be followed. According to some processors exporting mainly to Europe, the standards set by KEBS are basic in comparison to the more stringent ones applied in the international markets. These processors implement KEBS standards as required by law and additionally comply with their markets' requirements. It was evident that KEBS is very active in the processing sector, and has developed a number of standards for processed fruits and vegetables. We were not able to obtain any specific

information about KEBS' activity in enforcing grades and standards. It was reported that there have been a few times when people felt that KEBS was not in control of the quality even of products that have the KEBS logo. It was also reported that KEBS has logistical problems with sampling and analyzing processing products.

## **4.2 Institutional Roles and Responsibilities in Grades and Standards Setting and Implementation**

There are several governmental and private organizations involved in setting and implementing grades and standards, directly or indirectly in Kenya. These organizations play different roles in setting, implementing, enforcing and/or monitoring grades and standards of fruits and vegetables. It is probably not surprising that there are issues concerning responsibility and capability. These issues are generally controversial and there are conflicts of interest. This is one of the reasons why there is no good control in this area. For example, since it is widely known that proper use of pesticides and adherence to Maximum Residue Levels (MRL's) is an important area for farmers to be trained in, many government organizations want to play a role in it.

### **4.2.1 Government Organizations**

- i. The *Kenya Bureau of Standards (KEBS)* is the national government body charged with setting, reviewing, monitoring and implementing grades and standards. Technical Committees have developed several grades and standards in fruits and vegetables. The Horticultural Crops Development Authority (HCDA) is mandated to implement and monitor these through its extension services (see below).
- ii. The *Kenya Agricultural Research Institute (KARI)* is a National Agricultural Research Organization (NARO) with the responsibility for carrying out research on all matters relating to agriculture with the exception of coffee, tea, and pyrethrum. In the past KARI has concentrated most of its research efforts on production. During discussions with the Institute Director, the AFID team were informed that, although currently there are no major research activities being undertaken in the area of grades and standards of fruits and vegetables, the current focus is directed towards demand driven research. Grades and standards of fruits and vegetables has been identified as one of the key areas to develop in order to sustain the conventional productivity research.
- iii. The *Ministry of Agriculture, Livestock Development and Marketing (MOALD&M)* has the overall mandate of all agricultural extension activities in Kenya. The Ministry has different divisions charged with extension activities in specific groups of crops. The Horticulture Division is in charge of extension in the areas of production, post-harvest handling, and marketing of fruits, vegetables and flowers. Discussion with the Division indicated that no serious efforts are made to educate growers on grades and standards. It is not able to perform its role effectively due to lack of sufficient operational funds. Also, MOALD&M has not been recruiting new staff for some time now and the extension staff to farmer ratio is quite low, on the order of 1:1000. Additionally, liaison activities with research bodies and retraining

of staff are not regularly undertaken. This has created a situation where the growers are not motivated to seek the advice of the extension staff.

iv. The *Horticultural Crops Development Authority (HCDA)* is a parastatal charged with the following responsibilities:

- Dissemination of marketing information and export statistics to investors, exporters and producers for planning purposes;
- Organizing groups of small scale growers for production and marketing purposes of export crops;
- Advising growers, exporters and processors to plan production in relation to market demand;
- Advising growers on the use of certified planting materials and assisting them to identify both local and export market outlets for their produce;
- Monitoring prices and foreign exchange remittances into Kenya in collaboration with the central Bank of Kenya;
- Training farmers on the proper use of inputs, particularly pesticides so that farmers adhere to the MRL's;
- Advising producers and exporters on appropriate post-harvest handling techniques;
- Registering fruit tree nurseries, training nursery managers, and carrying out inspection of the planting materials for certification before release for sale;
- Licensing of horticultural exporters and collecting government levies on exports (each exporter pays some fees on an annual basis to HCDA to be allowed to export);
- Liaison with other stakeholders to assist in training, research, promoting and creating awareness among producers and exporters in understanding and adhering to international regulations on quality requirements, maximum residue levels (MRLs), packaging and environmental implications.

The mandate of HCDA is quite wide and not adequately covered at the moment due to lack of resources and low capacity both of personnel and equipment. As noted above, the HCDA is mandated to implement and monitor grades and standards in fruits and vegetables through its extension services. There is no evidence that this role is adequately played. From the interviews, as well as the workshop deliberations, it was quite clear that HCDA performance of this role is weak. At the moment it is not directly involved in the implementation of grades and standards; it mostly assists other stakeholders in promotion and creating awareness of standards. Similarly HCDA's mandate on pesticide training is very controversial; there were reports that this expectation is very unrealistic and hardly has happened.

v. The *Pest Control Products Board (PCPB)* is a parastatal charged with regulating the use of pesticidal products in Kenya. The Board registers all pesticides used in the country, licenses the premises that are used for storage of pesticides, approves the MRL's of the pesticides, monitors all dealers to ensure safe and proper use of pesticides, and coordinates the training of pesticide applicators to ensure the safety of all concerned. It was evident that the Board is not able to fulfill its mandate due to low capacity.

vi. The *Export Promotion Council* is a government body charged with the responsibility of promoting the export of all commodities from Kenya including fruits and vegetables. Although this body has the potential to influence fruit and vegetable grades and standards, we were not able to get any solid information about the extent to which it directly does so.

vii. The *Kenya Plant Health Inspectorate Service (KEPHIS)* is a government parastatal formed in 1997 that is charged with ensuring plant health in Kenya, including not only the imports of all plant materials but also the export of plant materials. According to KEPHIS management, KEPHIS was formed after the realization of the weakness in the previously fragmented regulatory mechanisms that existed in different government bodies. KEPHIS is mandated to fulfill the following responsibilities:

- Coordinate all matters relating to crop pests
- Establish service laboratories
- Advise the Director of Agriculture on appropriate seeds and plant materials
- Advise the Director of Agriculture on the issuance of phytosanitary certificates
- Administer Plant Breeders Rights in Kenya and be the liaison office for UPOV
- Undertake inspection, testing, certification, quarantine control, and variety testing
- Undertake grading and inspection of plants and plant products
- Award scholarships for inspection of plant health services
- Enforce standards for good husbandry in national irrigation schemes
- Develop and implement standards on both imported and locally produced seeds
- Approve all importation licenses for plant and seed issued
- Implement the National Policy on the introduction and use of GMO's
- Be custodian of the Plant Breeders Rights Register
- Educate the public on the safe use of agrichemicals
- Establish posts for quarantine, inspection, and quality control
- Establish strong linkages and collaboration

KEPHIS is actively involved in setting and enforcing grades and standards for export and import crops. However the scope of this organization is very wide and the list above is really an ambitious list of what KEPHIS would like to do. For this scope to be feasible, considerable capacity building, both personnel and equipment, will be required to be able to efficiently meet all these obligations.

viii. The *Ministry of Health (MOH)* is the government body mandated to ensure the health of all the Kenyan population. In an effort to ensure food safety and hygiene, the Ministry staff inspects and licenses all premises dealing with food. However, little or no activity was evident in the area of fruits and vegetables grades and standards enforcement by this Ministry. The Ministry is more active in food retail outlets such as hotels and restaurants.

#### **4.2.2 Private Organizations**

i. The *Fresh Produce Exporters Association of Kenya (FPEAK)* is private association of about two hundred (200) exporters. Currently, it is the only association of exporters



of fruits and vegetables. The objective of FPEAK is to undertake all those activities that increase the competitiveness of its members. These include:

- provision of market information, organizing exhibitions and trade shows, searching for new and niche markets
- implementation of the FPEAK Code of Practice that is now being demanded more and more by their members' importing partners
- implementation of an outgrower support scheme that aims to enable their members to source produce from small holders who meet the stringent market requirements
- lobbying the Government for better trading terms and other necessary supports such as improvement of the infrastructure
- liaison with other stakeholders such as research and regulatory bodies that can assist in enhancing their members' competitiveness

As with the governmental organizations, FPEAK has a mandate that is bigger than it is currently able to address considering its human resources and management. One of FPEAK's mandates is to link exporters with groups of small farmers in order to promote smallholder farm production and Kenyan exports in general. FPEAK supports small farmers through technical assistance and training, small grants to invest in infrastructure such as grading sheds and charcoal coolers, and loans to purchase inputs. FPEAK also provides services to member exporters such as market intelligence, promotion of Kenyan products abroad, and government lobbying.

Without the technical and financial support of FPEAK, many farmers would not be able to meet the quality requirements of exporters. In turn, without the help of FPEAK in organizing groups of farmers, many small exporters would not find it profitable to contract with small farmers because of high risk and transaction costs. FPEAK usually assigns exporters to specific groups of farmers. So far FPEAK has about 200 member firms and has organized about 120 farmer groups. The perception of both farmers and traders working with FPEAK is that they have both benefited from such an arrangement and that FPEAK is providing a valuable service. However, the organization is still struggling with its financial and organizational sustainability in the long-run; the outgrower scheme has generally been supported by a donor during the last few years. At the same time there are many small farmers who are not dependent on FPEAK. Groups of these farmers have always made private arrangements with exporters.

ii. The *Agro-chemicals Association of Kenya (AAK)* is a private association of international and local companies involved in the agrichemical trade. The association mostly lobbies the government for a better business environment and trains retailers and end users of the products of its member companies. AAK can play a bigger role in ensuring that only legal chemicals are marketed in the country. Such an association has the potential for industry self regulation, in marketing and use of pesticides, if effectively guided by national and international policies. This in turn has the potential to influence positively the perception of the use of pesticides especially as it relates to MRL's.

iii. The *Association of Better Land Husbandry (ABLH)* is an NGO funded by donors. ABLH seeks to promote organic farming or use of minimal amounts of agrichemicals.

The association is currently trying to put in place a certification program for organically produced fruits and vegetables targeting the export market.

iv. The *Kenya Institute of Organic Farming (KIOF)* is a private body that promotes the concept of organic farming in Kenya. KIOF focuses mainly on the production aspect of organic produce with little if any interest in marketing.

v. The *Green Belt Movement (GBM)* is a national NGO concerned with the conservation and improvement of the environment; food security and poverty reduction; and advocacy and civic education for mainly rural communities. The membership currently consists of 3000 women's and youth groups. In the execution of its objectives, GBM has the potential to play an enhanced role in the implementation of grades and standards in fruits and vegetables.

vi. *SGS International* is an international certification company. It operates a certification division under International Certification Services (SGS –ICS) whose role is to carry out audits for certification under ISO 900X series, ISO 14000, HACCP and codes of practice. Due to the paucity of experts in quality management and/or quality assurance, they also carry out training in these areas.

vii. *Bureau Veritas* is another organization that carries out activities similar to SGS International.

### **4.3 Issues In Standards**

#### **4.3.1 Issues of participation and negotiation in standard setting**

Kenyan participation in standards setting and negotiation in the export market is varied. Standards in the export market can be classified into three groups: international trading standards, importing country laws and regulations, and business driven private standards.

First, Kenyan participation in the setting and negotiation of international trading standards is limited due to lack of resources and organizational complications. International trading standards are set by government member organizations like the WTO and Codex Alimentarius. More often than not, venues for such negotiations are in the developed countries, thereby limiting the level and quality of participation due to administrative and financial constraints. The relevant actors are from different government ministries and/or departments and/or parastatals each with specific interests and expertise, which may not necessarily be technical in grades and standards. Hence it is difficult to organize harmonious and effective participation, given their special knowledge and experience in the agenda area. Generally it seems that the government has not perceived as strongly as it should the role it can play in negotiating with other governments for a marketing position.

Second, the only opportunity for Kenyan participation in setting the laws and regulations of individual countries importing Kenyan goods is through lobbying. This can be accomplished through the Kenyan government, private business interests, and

NGOs. Currently, there is little pro-active participation in this area, with the industry only taking a reactive position; this is exemplified by the industry's adoption of European Union regulations unconditionally. It is also difficult for countries such as Kenya to play a significant role in the implementation of these laws and regulations. Non-compliance with these regulations, as determined by the importing countries, automatically leads to trade penalties such as fines, destruction of produce, or total ban of exports from the affected countries. The paucity of expertise, resources and technical capacity in countries such as Kenya constrains their ability to play significant roles in the implementation of these laws and regulations.

Third, Kenyan participation in private business standard setting is mixed. Codes of practice are the instruments private businesses commonly use to achieve standards including both classic quality standards like taste, color and size, as well as newer standards like food safety, social justice and environmental protection. They may be developed by individual companies or drawn from model codes, which are usually industry specific.

The Kenyan fruit and vegetable industry has had little input into, or participation in, the European discussions about codes of practice. The participation that has occurred has been mainly through NGOs. The Kenyan fruit and vegetable industry has attempted to participate in the European Union discussions about harmonization of codes of practice mainly through trade associations. For instance, FPEAK and the Flower Label Programme (FLP) of Germany, unsuccessfully tried to “marry” their codes into a common label in 1998. The horticultural industry has also been proactive in developing a code of practice that addresses the relevant issues of food safety, and social and environmental standards. At the same time, the industry has not been as active as it might have been either in the negotiation of codes of conduct in Europe or in seeking recognition of the FPEAK code there. One example is FPEAK's absence as an Associate member of EUREP. EUREP is a group of leading European food retailers whose objective is to raise standards for the production of fresh fruit and vegetables. Producers and producer groups can become associate members and participate in the negotiation of the standards. In contrast to Kenya, the Chilean Fresh Fruit Association is an associate member of EUREP. Organizations such as FPEAK do not have enough funding to participate in international trade fairs or other meetings of relevance. In contrast, it would appear that the Kenya Flower Council has actually been able to make progress through the Kenya Flower Day in London the last two years. In addition, one might note the efforts of COLEAP (an export promotion council for African, Caribbean and Pacific countries) to publicize the FPEAK and KFC codes, although it is not clear how far they have gone in this direction.

Domestic standards for fresh and processed fruit and vegetables are set by KEBS through consultations within technical committees (the committees have generally a lot of authority in setting the standard). The horticultural fresh produce technical committee consists of representatives from the University of Nairobi Department of Crop Science, HCDA, the Ministry of Agriculture, Kenya Seed Company, Tana and Athi River Development Authority, FPEAK, KEPHIS, the Department of External Trade, and leading exporters (e.g., Sulmac, Ltd.). Important stakeholders in the subsector who are not represented on the committee are consumers, retailers, producers, and the public health authorities. Similar absences of consumers and small

and medium-scale producers can be noted on the processed fruits and vegetables technical committee. Its members include representatives from the Kenya Industrial Research Development Institute, Trufoods Ltd. (a medium-scale processor), the Ministry of Health, the Ministry of Agriculture, Del Monte Ltd. (see description in Section 3.2 above), Jomo Kenyatta College of Agriculture and Technology, and Kenya Utalii College Department of Food Technology.

#### **4.3.2 Issues of access and transparency in standards implementation**

Standards are a prerequisite for market participation. In other words, certain minimum standards must be met in order to sell products in certain countries (public standards) and to engage in certain trading relationships (private standards). Meeting public standards has not been a major hindrance to access to the European markets by Kenyan importers. However, European harmonization of maximum pesticide residue levels and the impending imposition of MRLs could block access to this market for some exporters, and thus implicitly some producers, particularly small-scale producers. Private standards, particularly stringent supermarket codes of practice, are the biggest threat to Kenyan access to the European market.

The transparency of European market standards, both public and private, varies among actors in the industry. The few large exporters, as well as large-scale farmers and plantations, seem to understand the issues and have access to information. However, medium to small-scale exporters and producers do not fully understand the actual content of the standards or their implementation.

International shipping, particularly of a highly perishable good, is inherently a high information cost activity. It is difficult and costly for small to medium-scale exporters to obtain accurate and truthful information on the handling of their products once they leave Kenya. When produce is rejected by a buyer in Europe, the exporter must try to get compensation from the airline for mishandling her produce. However, the exporter is at a disadvantage in terms of size, power, and information.

The grading process for export products is not transparent to smallholders. The rate of product rejection by buyers can be quite high. According to our interviews with traders and farmers, it can range between 10 and 40 percent. While further research is needed on this relationship, it appears that rejection rate may depend on the level of market demand, the experience of the farmer in quality control, and how well the farmer understands the process – the smaller the farmer, the more likely s/he is to be unfairly treated. Jaffee (1995) estimated that in the mid-1980s, as a result of poor coordination between growers and down-stream buyers as well as seasonal production gluts and transport bottlenecks, the average level of waste and post-harvest losses was approximately 25%.<sup>7</sup> Sometimes, because grading is done at the traders' premises far from the production areas, rejects are not returned to the farmer, resulting in loss of income for the farmer.

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<sup>7</sup> It is not clear how much of the "waste" is totally wasted. For example, if these so-called rejects are fed to dairy animals, should one consider that French beans fed to dairy cows is waste or good use, especially in light of the production cost.

Several levels of grading take place. The first is done by the farmer himself based on past experience and managerial skills. The produce determined by the farmer to be unsuitable for the market remains on the farm for consumption by the family and for livestock feed. However, as mentioned earlier, the flexibility of grades often depends on the current supply of the commodity, so farmers are usually fairly optimistic on what may be acceptable. A second grading occurs at the collection point. This is done either by exporter employees, exporter agents, or independent brokers, depending on the type of transaction. This process is fairly transparent for farmers because they are present when the grading occurs and can ask questions. However, there is still confusion at this level over why some produce is rejected and other produce is accepted. In a few cases this is the final grading on which the farmer's payment is based. However, in most cases a final grading occurs at the exporter's packhouse or the processing plant and provides the basis for the farmer's payment. It is not transparent because the farmer is not present and has no means to question or challenge the grading. Some feedback is given to farmers on how to minimize rejects, like a particular pesticide or timing of harvest, but this varies greatly among exporters.

In the domestic market, the application of standards for processing facilities and retail establishments is neither transparent nor consistent. Local city councils are in charge of implementing health and hygiene standards. KEBS and the city council are the two bodies that regularly visit processors and retailers to monitor and enforce standards. The frequency of visits is sporadic and selective. In the retail sector, only supermarkets and up-scale green grocers are inspected. Businesses do not have access to documentation of their previous and current performance and a feedback mechanism for improvement is nonexistent.

## **5. Current Problems**

The Kenyan fruit and vegetable subsector faces several major obstacles related to grades and standards. These problems include situations and issues that impede meeting current standards, the enforcement of standards, and the development of standards.

### **5.1 The myth of the private sector miracle in the Kenyan horticulture industry**

The general philosophy in the post-liberalization economy is for the government to get out of the way and let markets work. However, this is an oversimplification of how an economy actually operates. An economy does not operate on its own without the assignment of rights. In other words, the economy and the government are not separate and mutually exclusive spheres. The economy and polity are intertwined functions of one another that produce publicly chosen rules and shared value judgments, which together provide the institutional framework necessary for an economy to operate (Samuels 1989). Grades and standards and laws and regulations are important components of this institutional framework.

Much of the success of the horticultural industry has been attributed to the lack of government involvement. However, as the industry adapts to meet strict export

standards, many pressing issues have emerged which stem from the failure of government functions and institutions. Particularly, problems associated with contract enforcement and a nonfunctioning legal system and the provision and protection of collective goods illustrate how the private sector acting alone has potentially reached its maximum capacity.

The ineffectiveness of the court system makes enforcing contracts impossible. It has been reported by several buyers that side-selling or leakage of produce to non-contracted traders occurs frequently. When there is a good market at harvest, many farmers are lured by higher spot market prices where they can sell their produce for cash. This results in significant losses for the contracted traders who had provided inputs and technical assistance. In case the market is down, farmers attempt to sell excess produce to the contracted trader. However, depending on the demand by the final buyer, the trader may or may not buy the extra quantities. Because of high default risk, many traders no longer provide any inputs to farmers, especially those selling on the local market where quality standards are lower. In general, in areas where access to alternative markets is small (for example in Western Kenya), there is less room for side-selling. However, in Central Kenya, where many markets are available, processors are less likely to provide inputs on credit because of higher leakage to alternative buyers. The main reason for this problem in contract farming is that it is very costly (in terms of time and money) to enforce contracts through the Kenyan court system. In addition, given the small volume contracted with each farmer, it is rarely worth it to take him/her to court.

On the other hand situations also arise where buyers find cheaper sources of produce or cheaper routing, in which case they fail to meet their contractual obligations to the farmers. In other instances, market fluctuations reduce the total volume of orders for the buyer to fill, either because the buyer's projections were over-optimistic or because the market unexpectedly turned down. Many times buyers may not buy anything despite a promise to buy from certain growers. Whatever the underlying cause, exporters deal with the reduction in order volumes by rejecting produce unfairly citing flimsy quality issues. However growers lack the resources necessary to take buyers to court. In general, buyers give only sketchy information to growers, so the latter hardly ever know the market situation and where there might be any flexibility.

Budget cuts have forced government institutions to seek funding through user service fees, both formal and informal. This has proven effective in some cases. However, only individuals who can pay for services get them. An example of a formal user fee is the fee an exporter pays to get a pesticide analysis from KEPHIS. An example of an informal user fee is when a farmer or group of farmers must pay the transportation of an extension officer in order to get information. In many cases, the farmers who are in the most need of the information cannot pay these fees and thus do not get the service.

Moreover, the funding situation has created an institutional culture obsessed with user fees, which are appropriate for some services but not for all services. It has created distorted incentives for carving out functional territories where fees may be captured. This has led to disjointed institutional focus and overlapping objectives among institutions. Only goods for which fees may be captured are produced. Thus, high

exclusion cost goods, where if the good exists for one user it is costly to exclude others, are not provided.

For example, the reputation of Kenyan produce in the perception of buyers and consumers is a high exclusion cost good. The Government of Kenya would have to pay the costs of enforcing export licensing in order to make this an exclusive good. In the absence of that effort at exclusion, an exporter can "free ride" on the quality reputation of Kenyan produce. A free rider is a user of a good who does not contribute to the provision of that good (Schmid, 1987). However, when the free rider is exposed for low or sub-standard quality, the reputation of all Kenyan produce, and thus all exporters, suffers. One producer cited an example of all Kenyan passion fruit being pulled from the shelves of a supermarket in the UK for one week because high pesticide residue levels were detected on one shipment of passion fruit from Kenya. That particular producer lost a week's worth of sales even though he could show documentation of his particular pesticide spray records. While government is not the only economic actor that can provide and protect high exclusion cost goods, it is often the structure chosen due to high organizational and monitoring costs associated with collective action.

## **5.2 Infrastructure and post-harvest handling**

Poor infrastructure and post-harvest handling greatly affect the industry's ability to meet quality standards. Poor and degraded infrastructure (roads, bridges, ports and airport facilities), limited pre-cooling and cold storage facilities, and poor packaging have all been cited as contributing factors to post-harvest loss. Estimates of post-harvest loss range from 45% (Thiru) to 60% (HCDA interview) for the domestic market where post-harvest cold storage is virtually non-existent. Poor packaging, particularly "long bags" (e.g., for cabbage, potatoes, carrots), is also a major impediment to delivery of quality produce to the final consumer. Lack of cold storage and poor climate control (temperature and moisture) on the shelf is problematic at the retail level as well.

Post-harvest loss is less in the export market due to the tight control of the marketing chain and provision of post-harvest handling facilities, including cold storage, transport, and packaging. However, the poor condition of infrastructure greatly increases the cost of maintaining these facilities (poor roads lead to high truck maintenance costs, electricity rationing for cold storage etc.) and the existing facilities are not adequate for the volume of exports. Seven new cold storage facilities, which are currently under construction in a joint project by HCDA and Japanese donors and/or investors, will alleviate some of the post-harvest handling needs. However, the funding and maintenance of these facilities is still questionable.

Fruits and vegetable exporters must compete with flower exporters for limited air cargo space. Moreover, preference for cargo space is often given to flowers, which attract a higher tariff of U.S. \$1.70-1.80 per kg, compared to U.S. \$1.20-1.50 per kg for fruits and vegetables, hence leaving fruit and vegetable shipments to wait for up to 24 hours. This additional time lag affects the quality of some highly perishable fruit and vegetable commodities and often results in their rejection at the terminal market..

Poor and congested communication networks (email, telephone lines and faxes) also inhibits normal business activities, affecting the flow of information necessary for standards to be communicated and met.

### **5.3 Information dissemination and farmer training**

Lack of information and proper training can prevent producers from understanding standards and how to meet them. This is particularly true for smallholders. In addition to the absence of basic market information that would allow farmers to compare prices and negotiate better rates with traders, they also do not have access to the proper information and training on production practices necessary to meet standards. This includes general horticultural practices including choice of seeds, timing of planting and harvest, grading, post-harvest handling, and packaging as well as input use, including fertilizer and pesticide application. Moreover, farmers lack training on management practices such as the documentation of production practices and hygienic conditions, understanding contracts, credit and financial management, and bargaining skills. Most farmers cited marketing as their number one problem.

This need stems from the ineffectiveness of the extension service. The Ministry of Agriculture reported that it was currently engaged in a full horticultural extension program only in eight districts in the Eastern Province (donor funded). The more than 30 remaining districts do not have a horticultural extension program. While not all of these 30 districts need full scale programs (because the potential for horticulture is not that high or because there are other more serious constraints to be overcome), it is important to note that the Ministry is not allocating horticultural extension efforts on the basis of need.

Extension services are also conducted by HCDA, FPEAK, and individual exporters and processors. However, these efforts do not meet all of the needs for training. There is a lack of coordination between ministries, other agencies, and private actors who are involved in training programs.

### **5.4 Quality and Labeling Standards for Inputs**

Seed quality is another major problem in meeting standards for the export market. High quality, certified seeds and planting materials for many commodities are not available domestically and must be imported. In order to ensure quality seeds are used, exporters and processors provide seeds to farmers as part of a production contract. They usually provide a limited quantity of seeds (e.g., 1 kg per farmer) so that there is better control over output quality and production. In this case, however, traders have to monitor enforcement of the contract more closely to recoup the costs of the seeds provided on credit.

Pesticide labeling does not seem to present a problem for meeting tolerance levels for exports. Kenyan pesticide labeling regulations do require pesticides to be labeled for use on certain crops, as is the common practice in the US and Europe. If there is a



problem with label regulations, it seems to be with specificity; for example, a label may not specify the type of beans to which the frequency and rate and pre-harvest interval applies. However once a pesticide is approved for use in Kenya, some growers and applicators use it on any crop regardless of the label restrictions. This would suggest needs both for training of the end users of pesticides, and for enforcement of unapproved uses. This situation may not currently be detected if testing is usually done for major uses while minor uses are assumed to be in compliance.

### **5.5 Effects of standards on the governance structure of transactions**

Increasingly higher standards required by buyers in Europe highlight the need for tight coordination of the production of fruit and vegetables and raise the question of what type of governance structure can meet these standards. Supermarkets are the dominant high-value force in the marketing chain for fruits and vegetables and their size and market power means they are the ones determining the structure and behavior of the market upstream. In order to maintain consumer confidence and loyalty and meet food safety legal requirements, particularly due diligence in the UK, supermarkets are requiring higher standards in terms of consistency and reliability of a supply of high quality products, traceability, environmental standards, and social standards.

Concerns have been raised over small-scale producers' access to export markets given their seemingly limited ability to meet the standards. Several actors in the industry assert that a vertically integrated production channel is the only governance structure that can provide the performance necessary for European markets. According to FPEAK, about 60 to 70% of the fruits and vegetables exported from Kenya are grown by small farmers. However, Dolan *et al.* (2000) note that the share of small farm production in the fruits and vegetables export market has been declining throughout the 1990s. No official statistics could be found to confirm these numbers. Further work is needed to collect information on the extent of small farmers' involvement in both the production and marketing of fruits and vegetables in Kenya.

It is important to link smallholder farmers to the thriving fruit and vegetables markets because the production and commercialization of high-value crops such as fruits and vegetables can be beneficial to small farmers in several respects. First, it increases their access to cash income to spend on items such as clothes and school fees. Second, it increases their access to inputs on credit, thereby improving their productivity. Third, the use of inputs on cash crops has spillover effects on domestic staple crop production because food and cash crops are often intercropped in the same field. Fourth, the household can consume whatever is not sold on the market and this improves the nutritional quality of their diet. Fifth, growing fruits and vegetables is usually more complicated than household food crops and therefore it contributes to increasing the technical and marketing management skills of the grower. Finally, promotion of smallholder farm production contributes to food security, employment and income generation in rural areas, which reinforces the overall development and poverty reduction goals of the government.

Dolan *et al.* (2000) note that in order to secure a continuous supply of commodities meeting high quality, environmental and social standards, supermarkets and their suppliers are shying away from small exporters and smallholders and relying more on large firms and large-scale producers where control over standards is more reliable and less costly. However, the issue of the cost of meeting standards is not that simple. The tradeoff is between high external monitoring and supervision costs and high internal monitoring and supervision cost. Thus, is it more costly to meet the standards through vertically coordinated contracts or through complete vertical integration?

Vertical integration is attractive because of the high transaction costs associated with dealing with many small-scale producer groups, especially given problems of group cohesion and ability to self-monitor and the need for close training, supervision, and monitoring of production and management practices, particularly documentation. Supermarkets do not trust the ability of small growers to meet their high quality and safety standards especially for MRL's. In turn, Kenyan-based exporters are reluctant to use smallholders without assurances from retailers that the produce will be bought at agreed upon prices (Dolan *et al.* 2000). As a result, small farmers and exporters are being marginalized from the supermarket chain. For example, Dolan *et al.* report that in 1998, four of the largest fresh fruit and vegetable exporters in Kenya sourced only 18% of their produce from smallholders. While these figures are illustrative, there is a dearth of information on the evolution of the share of small farmers in the fruits and vegetable market of Kenya and more evidence needs to be collected before serious conclusions are made on this issue. Indeed there are some suggestions that the smallholder share may be underestimated; some exporters would like supermarkets abroad to think they do not buy from small growers so as to give them confidence while in actuality they are still buying from small growers.

However, there are potentially high internal costs to a vertically integrated firm associated with monitoring and incentives for employees. This is known as the principal-agent problem. Fruit and vegetable production is highly labor intensive. It also requires careful husbandry, significant pest and disease control, careful pre and post-harvest handling, and high level of technical and managerial skills. These particular characteristics make it difficult and costly to develop a system of employee incentives and monitoring necessary to achieve the required standards. Given these characteristics, labor may perform best when given some type of ownership and personal accountability in the production process. In addition, large-scale farms require costly investment in infrastructure such as land, irrigation, electricity, storage, etc.

Therefore, it is not likely that dependence on small-scale farmers for fruits and vegetables production will disappear in the near future. In fact, most exporters combine out-grower supplies with their own production. This means that in order to promote the fruit and vegetable industry in Kenya, more effort is needed to support small farmers in meeting the requirements of the market. Public institutions in Kenya have been unable to provide support to small farmers in this area and the most recent efforts have been sponsored by the private sector, NGOs, and donors. It has been demonstrated that small farmers can meet the stringent standards of EU markets with assistance from exporters, trade associations such as FPEAK, NGOs, donor organizations and SISDO. SISDO, the Small Independent Services Development

Organisation, is a project of USAID-Kenya. Through the out-grower schemes described earlier, exporters are able to closely control and direct the production of smallholder growers to ensure that they meet the code of practices and standards required by importers. Codes of practice and standards imposed on small farmers may be too costly to implement by the farmer himself. However, farmers have been organized into groups in order to reduce transaction costs and facilitate their access to the market. Exporters have also put more effort into convincing retailers that they can provide them with food that satisfy their standards, even if it is supplied by small farmers. For example, many processors and exporters are now asking their contract farmers to keep records of pesticide use so they can show them to the buyer if requested.

## **5.6 Consumers as a driving force for quality standards**

European consumers are the driving force behind the high European standards. The exacting standards of supermarket, especially in the UK, are driven by the need to protect their brand image and maintain consumer trust. In the wake of food safety disasters, including mad cow disease and the dioxin scare, European consumers lost their confidence in their governments to guarantee a safe and secure food supply and thus, supermarkets have taken the role of protecting the health and safety of their consumers. For those who are successful, the reward is strong consumer loyalty. However, it only takes one incident for the trust to be lost.

Only a small fraction of Kenyan consumers are quality conscious. Given low average income levels, high quality demands for fruits and vegetables are not an issue. However, the need for consumer education and awareness about hygienic conditions and the nutritional importance of fruits and vegetables is great and is rising. In the traditional Kenyan diet, vegetables are generally cooked for a long period of time. To some degree, this mitigates potential problems with microbial contamination. However, it also reduces the nutritional value of the vegetables.

## **6. Conclusion**

The need for effective grades and standards and food laws and regulations is prevalent throughout the agricultural sector in Kenya. Dairy and meat as well as maize are important commodity systems, which would benefit from an analysis of these issues. Lesson learned from the fruit and vegetable subsector on cross-cutting issues, such as Kenyan consumer awareness and education, food safety and hygiene issues, and collective action, can be used as a starting point for the development of a system of standards for other commodities.

### **6.1 Recommendations for Next Phase**

Although these constraints are not insurmountable, a concerted effort is needed to address them. Following Dorward *et al.* (1998) and through field observations in Kenya, the conditions for beneficial inter-locking contracts are as follows:

1. there must be competition among traders to prevent monopsony control over the contracted crop (the down-side of this condition is that competitive markets provide room for side-selling and leakage to alternative market outlets and therefore another means should be found to enforce contracts and prevent leakage);
2. there must be a guaranteed outlet for the final product or stable markets to reduce the incentive of traders to renege on their procurement from the farmers;
3. there must be an effective repayment mechanism either through loans to groups of farmers that can guarantee the payment of defaulting farmers or effective information about farmers' default risk and credit history;
4. farmers should have access to market information to prevent exploitation of farmers by traders;
5. the volume of transactions should be large enough to reduce transaction costs; this is usually achieved by trading with groups of farmers rather than individuals;
6. there should be a well established formal or informal network of traders to control rogue traders; and
7. there should be little alternative sources of raw material to prevent the trader from buying from other farmers.

In order to address these problems, we would recommend the following activities by government agencies, non-governmental organizations, and other stakeholders.

Government Agencies. We would recommend that government agencies:

- Hold a stakeholders' forum, to review and recommend mandates and responsibilities according to areas of specialization. The forum should be organized in such a manner as to enable the relevant central Government and statutory and/or regulatory bodies to participate actively.
- Train and/or retrain staff to implement these more focused and clarified mandates and responsibilities.
- Support the relevant institutions to further develop their personnel and equipment capacity.
- Strengthen and empower the regulatory capacity to monitor and enforce issues of grades and standards, including goods and services, through incentives and disincentives by way of policy, laws, regulations, bylaws and guidelines.
- Build the necessary capacity to effectively guide the legislation, and to negotiate and lobby at local and international forums for the interests of the government and the people of Kenya in relation to fruits and vegetables.
- Develop sustainable dissemination modalities to communicate pertinent information widely to stakeholders.

Non-governmental Organizations. We would recommend that non-governmental organizations develop their capacity to:

- Identify goods and services that would be required by their constituencies in order to develop the technical and human resources necessary; package and relay these to beneficiaries.
- Lobby for community rights at local and international level.

- Liaise with government and other development agencies.
- Carry out research on the impact of standards and grades in their areas of jurisdiction.
- Improve the economic base, health, nutrition and in general the welfare of their beneficiaries through empowerment, skills development and networking.

Farmers, Processors and Exporters. We would recommend that farmers, processors and exporters:

- Formalize group status where applicable. There is need for food-specific commodity-exporting organizations, e.g., bean exporters, Asian vegetable exporters. These may include producers who grow for export.
- Organize farmer groups to facilitate production and marketing, as well as liaising with exporting organizations. Farmer groups should obtain accurate and up-to-date market information. They will need training in management, bookkeeping, and financial matters.
- Lobby for training in technical and managerial opportunities through their associations.
- Train in quality management and seek quality assurance certification.
- Develop formal business working partners and networks.
- Acquire value-adding capacities.
- Raise health and nutritional awareness among proprietors and workers for improved outputs.
- Raise funds for above activities.

Consultants and Professionals. We would recommend that consultants and professionals:

- Form umbrella bodies for self-regulation and as an avenue to improve quality of services.
- Keep up with technology development and information and disseminate the same to end-users.
- Contribute to local consumer quality awareness.
- Carry out impact assessment.
- Develop tools to assist producers with projections of their productivity to improve efficiency especially in software packages.
- Provide professional and credible training for end users.
- Form networks with partners and collaborate with other stakeholders.
- Develop capacity to effectively disseminate market information to end users.

Institutions of Higher Learning. We recommend that institutions of higher learning:

- Develop general and specialized human resources in standards and grades for the fruit and vegetable industry at short course, certificate, diploma and degree levels.

Research Institutions. We recommend that research institutions:

- In the context of development, focus on research with respect to quality assurance and management of fruit and vegetable production, processing, distribution and marketing for local and export markets.

Figure 3: Export Market for Fresh Fruits and Vegetables

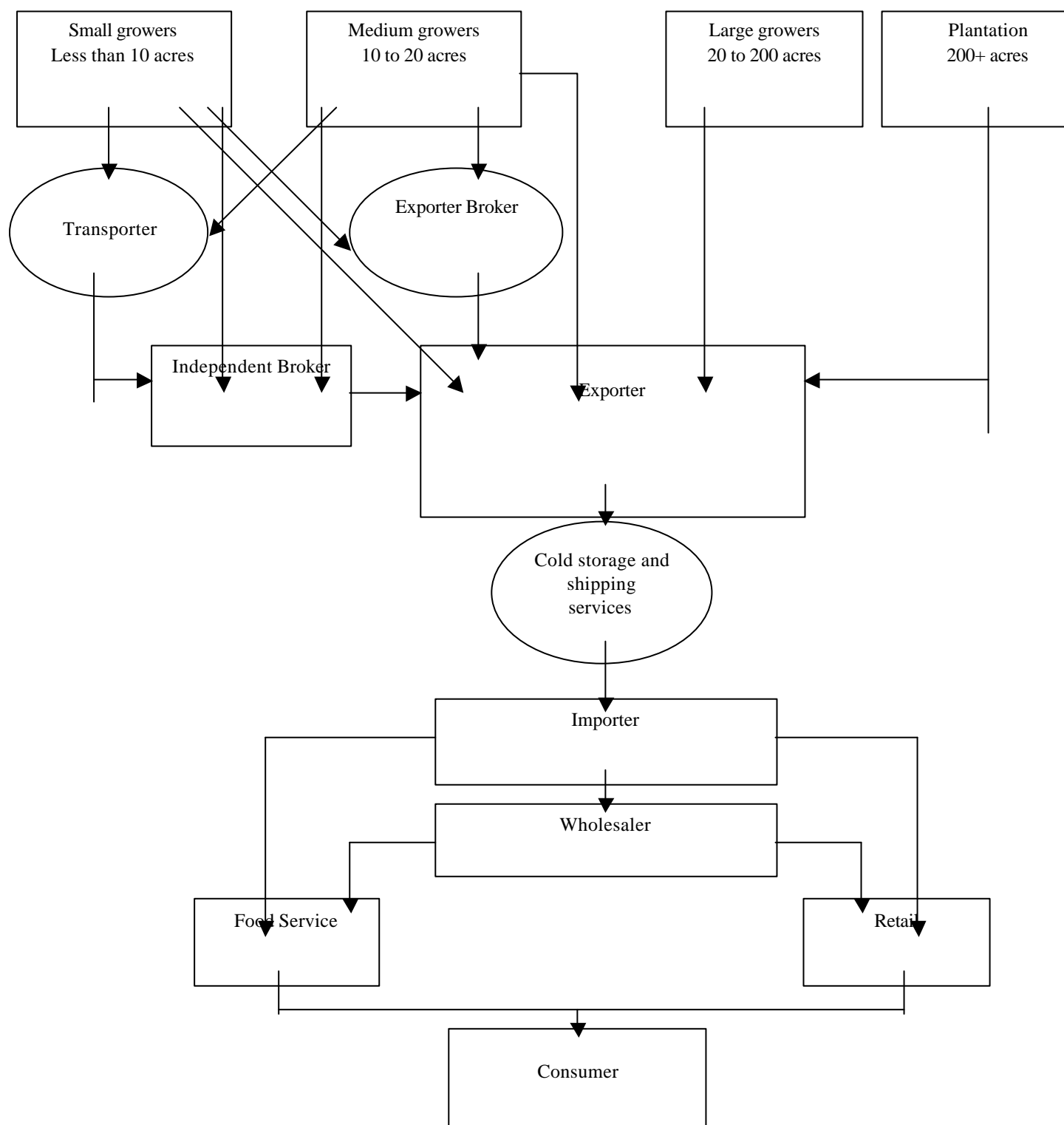


Figure 4: Export Market for Processed Fruits and Vegetables

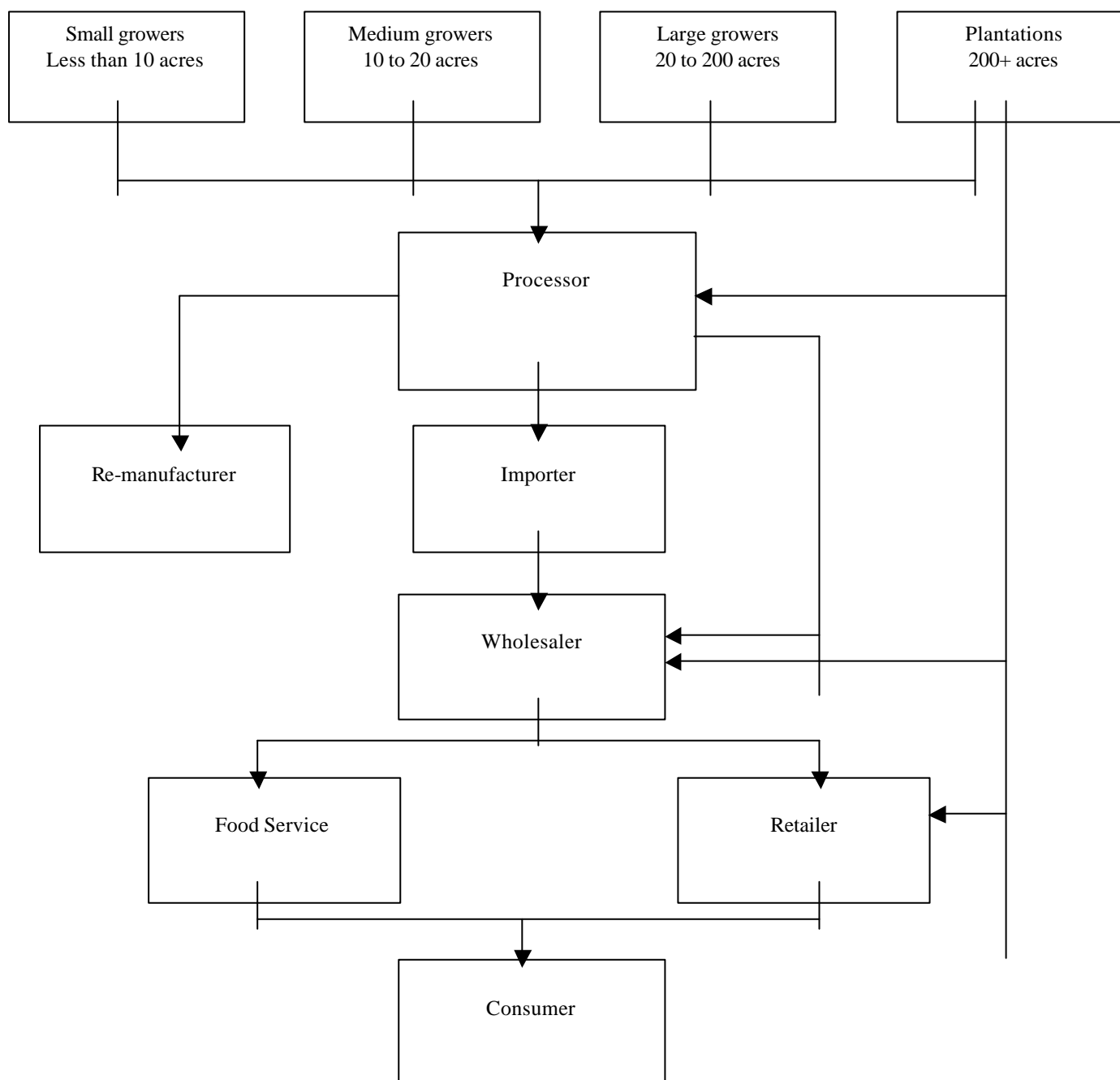


Figure 5: Domestic Market for Fresh Fruits and Vegetables

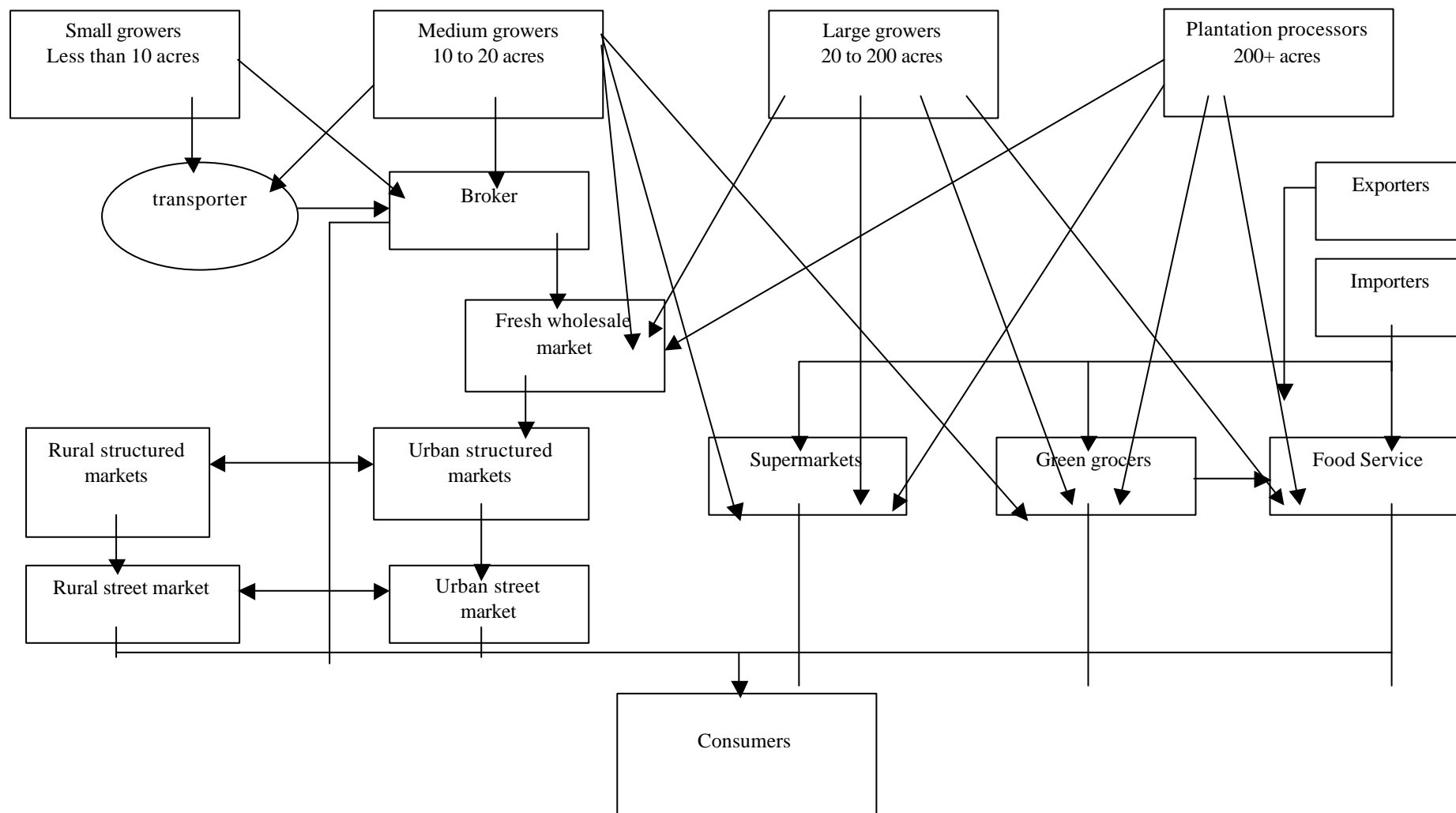
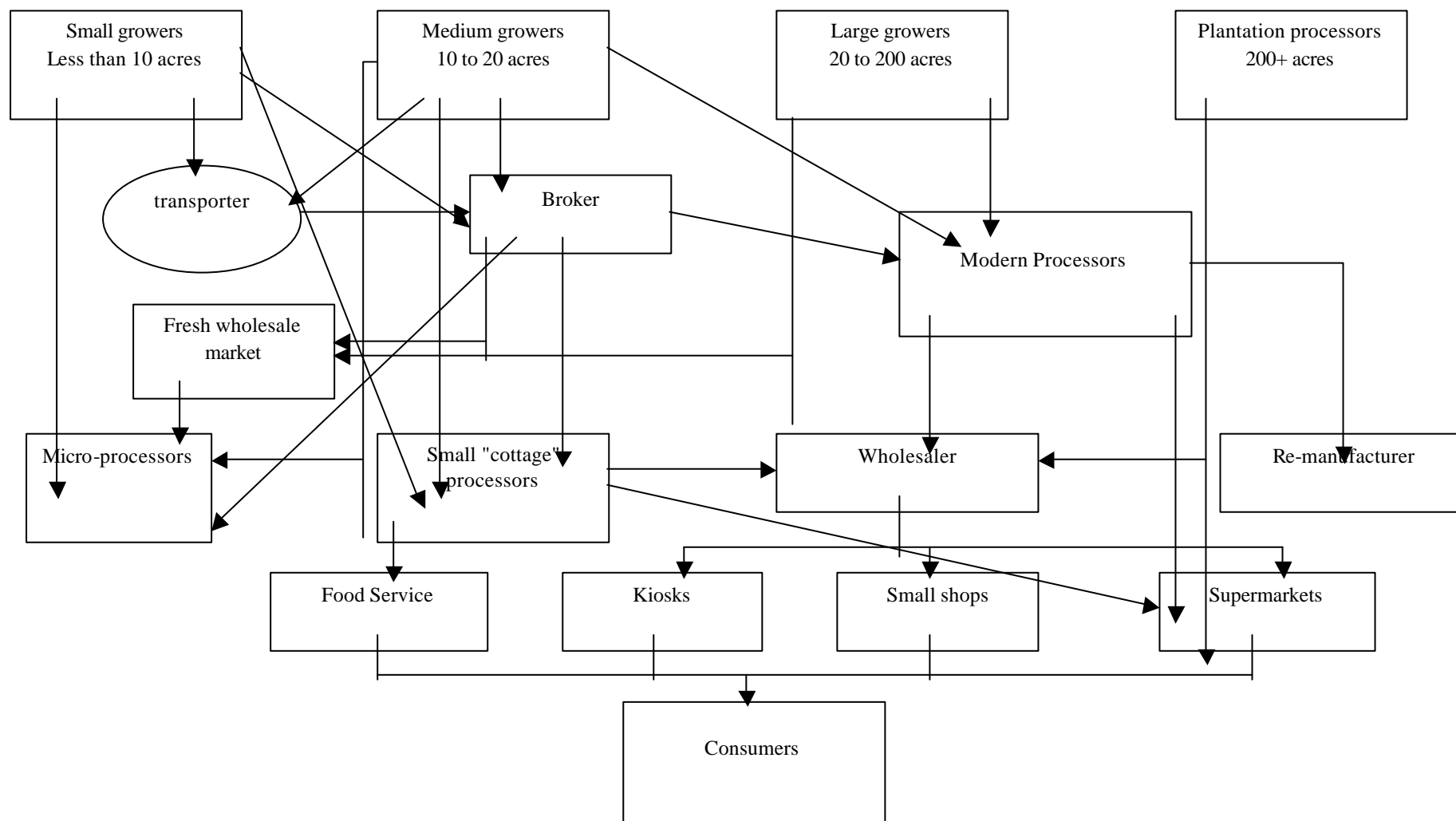




Figure 6: Domestic Market for Processed Fruits and Vegetables



## APPENDIX A TEAM MEMBERS

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agricultural sociologist with expertise in systems of standards and grades

Hegarty, P. Vincent

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APPENDIX B  
PERSONS CONSULTED

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 Kenya Plant Health Inspectorate Service  
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Thiru, Alex  
 Gakumbi Limited  
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Thuku, Zaweria  
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 Fresh Produce Exporters Association of Kenya  
 Agronomist

Yako, Wilfred  
 Ministry of Agriculture and Rural Development  
 Horticultural Crops Development Authority

## APPENDIX C SITES VISITED

### Chuka Meru Village Growers Organization

discussion with leaders and growers  
tour of production, grading and storage facilities

### Del Monte Kenya Limited (Thika)

discussion with operations supervisor and quality assurance supervisor  
tour of processing facilities

### Suburban Farm

discussion with irrigation supervisor and pest management supervisor  
tour of production facilities

### Food for Thought

discussion with operations manager  
tour of processing facilities

### Fresh Produce Exporters Association of Kenya

discussion with assistant director and public relations manager

### Government of Kenya

#### Kenya Agricultural Research Institute

##### Directorate

discussion with deputy director

##### Thika Research Station

discussion with various staff  
toured research plots

##### Macadamia Research Station

discussion with director  
toured research facilities

### Kenya Bureau of Standards

discussion with deputy director and various officers  
toured library and electronic resources center

### Kenya Plant Health Protectorate Services

discussion with assistant director  
tour of laboratory facilities  
visit to office at airport

Government of United States of America

United States Agency for International Development

discussion with chief of agriculture office and various staff

Jomo Kenyatta University

African Virtual University

discussion with administrative assistant

tour of facilities

Jomo Kenyatta University of Agriculture and Technology

Department of Food Science and Postharvest Technology

discussion with chairperson and various faculty

tour of laboratory facilities

Kabazi Cannery Limited (Nairobi)

discussion with managing director and operations manager

Kabazi Cannery Limited (Nakuru)

discussion with supervisor of food technology

Kiambu Town Market

discussion with various fruit and vegetable dealers

tour of marketing facilities

Kibirigwe Irrigation Scheme

discussion with agronomic adviser

tour of operating farms

Kikuyu Roadside Market

discussion with various fruit and vegetable dealers

tour of marketing facilities

Mweya Refrigerated Storage Facility

toured construction site

Trufoods Limited (Nairobi)

discussion with managing director and operations manager

Uchumi Hypermarket – Westlands (Nairobi) Store

discussion with store manager and various staff

tour of retailing and storage facilities

University of Nairobi

Faculty of Agriculture

discussion with dean

Westlands (Nairobi) Neighborhood Market

discussion with various fruit and vegetable dealers

tour of marketing facilities

Zucchini Grocery Store – Westlands (Nairobi)  
discussion with owner/manager  
tour of retail facility



APPENDIX D  
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**APPENDIX E****TECHNICAL WORKSHOP REPORT****15-17<sup>TH</sup> AUGUST 2000****NARO MORU RIVER LODGE****ASSESSMENT OF STANDARDS & GRADES ON FRUITS & VEGETABLES  
IN KENYA****TECHNICAL WORKSHOP AT NARO MORU RIVER LODGE****SUMMARY**

The objective of the three day workshop (15-17<sup>th</sup> August 2000) was to bring together representatives from key stakeholder groups concerned and affected by food and agricultural standards in Kenya to a forum to identify constraints to setting, embracing and conforming to standards. Participants were drawn from four main categories -- standards organizations; fruits and vegetable processors; primary producer organizations; and research institutions.

Among the issues addressed were: the role of food production in economic development; fruits and vegetables production; processing and marketing; standards setting, implementation and regulation; international trade and the application of standards and grades and needs assessment for capacity building and human resources development.

The workshop participants deliberated at length on challenges faced by the fruit and vegetable industry in production, processing, marketing and in accessing technical support services, details of which are available in the full Report of the Technical Workshop which follows this Summary. It emerged that major concerns in production and processing revolve around access to pertinent information on quality issues, whose current source is the few major players (exporters) and their agents, the media, farmer organizations and, sporadically, from the Ministry of Agriculture. Even so, the technical interpretation of the information remains a major hurdle, as there is limited capacity on the ground to disseminate it to the farmers through the government sponsored extension service.

In the marketing of the produce, the export sector has developed structures based on the market demands. These include marketing channels, quality control measures and business contractual arrangements. On the other hand, the local market is riddled with undefined marketing channels, complicated by high produce losses due to poor post harvest handling, storage and packaging. In the absence of consumer awareness on quality issues, there is no monitoring and regulation of public health parameters, except those that are demanded by government licensing officers.

Spurred by the export market demands for quality assurance, limited technical services have emerged mainly from the private sector, albeit in poorly coordinated manner. Motivated by the economic incentives accruing from the industry and the non-involvement of the government, the rate of development of standards and grades

in fruits and vegetables evolved far ahead of the government regulation capacity. It is therefore not a surprise that the government standards body, Kenya Bureau of Standards (KEBS), charged with the responsibility of developing standards, has been relegated a “spectator” in the implementation and monitoring of these standards. The Horticultural Crops Development Authority (HCDA), a government regulatory body, is in the same dilemma and as a result has not developed its mandate in terms of policies, guidelines, human and technical resources to match the requirements of the industry. Under this scenario, the participants examined the training needs in the various public sector and private domains with respect to existing capacity, not only to develop the sector, but much more importantly, to sustain the investments and efforts of the private sector, the foundation of which is threatened by the rapidly emerging, global trading requirements in a competitive and saturated market.

## **ASSESSMENT OF STANDARDS & GRADES ON FRUITS & VEGETABLES IN KENYA**

### **TECHNICAL WORKSHOP AT NARO MORU RIVER LODGE**

#### **REPORT**

A technical workshop on the assessment of standards and grades in fruits and vegetables in Kenya was attended by 23 participants in among whom were five members of the AFID team constituted by Michigan State University (MSU). Other participants were invited from various stakeholder groups in fruit and vegetable production, processing, regulation and marketing in Kenya.

The purpose of the workshop was to bring together representatives from key stakeholders, concerned and affected by food / agriculture standards and grades in Kenya, focusing mainly on fruits and vegetables, to a common forum that seeks to identify constraints to adoption and conformance. They were drawn from standards organization; fruit and vegetable processors; primary producer organizations; research institutes; government regulation bodies and development agencies.

The first day of the workshop focused on thematic papers on productivity and regulation. The second day was devoted to exploring opportunities in the market place and in identifying the necessary capacity required. Finally, the workshop came up with a practical action plan.

#### **Specific objectives**

- i) To address the impact of food quality on national economic indices
- ii) To explore productivity, processing, marketing opportunities for fruits and vegetables.
- iii) To search modalities of harmonization of standards, grades and policy guidelines.
- iv) To assess areas that require capacity building.
- v) To draw a way forward

#### **Expected outputs**

A participatory standards and grades and grades assessment for Kenya

#### Session I

#### **Day 1 - 15th August 2000**

The workshop started at 8.30 am with registration and introductions of participants.

The workshop should have been opened by the Director of Kenya Agriculture Research Institute ( KARI) who regrettably was unable to attend.

Mrs. Jane Ngige prompted the start of the workshop by presenting the welcoming participants and presenting the work program and the objectives

The following is a summary of the proceedings and the consequent discussions. Mr. Gitu moderated the sessions while John Wagacha and Jennifer Muriuki took session notes.

**Paper 1            Relationship between human nutrition and productivity.  
Mr. Njau Gitu**

This paper focused on effects of malnutrition on economic development. Malnutrition should be mitigated against at an early stage to ensure that the population does not hold economic development at hostage at a later stage. Malnutrition mainly affects women and children. Nutrition has a direct correlation with HIV/AIDS

**Some effects of malnutrition**

- Vit A, Iodine and protein deficiency reduce survival, productivity and intelligence
- Lack of Iodine causes economic loss to Kenya of 19 billion over a period of 10 years
- Stunting causes economic loss of 15 billion while losses due to anaemia is rated at 27 billion. The greatest problem in Kenya regarding malnutrition is affordability of iron rich foods and regular medical checkup.

**Comments:** Margaret Aleke suggested an initiative to educate the population both at home and at institutional level on the economic and social importance of objective nutrition. Mr. Mukindia highlighted the fact that most of the farmers producing for export market focus on the export requirements and literally forget to pay attention to growing their own food which provides adequate nutrition (hidden cost of production for exports.)

**Paper 2            Fruits and Vegetable Production, Processing and Marketing for  
local and export market. Wilfred Yako- (HCDA)**

The paper summarized challenges of the export market as:

- Challenges from other export countries
- Failure to meet market demand
- Low quality produce
- Unavailability of high quality seeds
- Inadequate and/or relevant research
- Adverse publicity
- Poor extension services
- Lack of good access roads

**Discussions:**

Q     Dr. Kimani - How is data collection by HCDA carried out and its availability to members.

A     Dr. Mbaya ( Council for science and technology) gave an overview on the mandate of HCDA, in short:

HCDA is a government parastatal, charged with developing and promoting the horticulture industry. It has technical and marketing departments.

Q     Craig Harris -Which importing countries give Kenya greatest problems in standard and grades

A Yako - EU which is very strict while the Middle East not very strict  
Mr. Mutiso (Chairman Fresh Produce Exporters Association of Kenya (FPEAK) highlighted that the EU has harmonized their requirements and that they are very strict on MRL's, first instituted in 1993. FPEAK is in the process of providing this information on the net for members.

**Paper 3                      Codes of Practice- Environmental and social standards**  
**Chris Mukindia**

Codes of practice - are based on requirements that consumers feel are not adequately addressed in the specifications, standards and requirements

There are different types of codes of practice

a) **Pressure group codes of practice** – e.g. fair trade label maximum havelaar

b) **Market codes of practice** e.g

I. Flower label programmes (FLP) sponsored by BIG of Germany.

II. Individual supermarkets.

c) **Producer organization codes**

1. FPEAK

2. Kenya flower council

The latter to have a national code of practice drawn from FPEAK and KFC codes of practice

d) **COLEACP** - Harmonization of codes of practice from Caribbean, Africa and Pacific

**Codes cover 4 categories**

I. Social welfare of employees

II. Pesticides and agrochemicals

III. Conservation of the environment

IV. Quality Assurance, Traceability and Documentation of operations

**Shortcomings**

Exporters have to finance to implement codes practice.

Q Dr. Ndiritu - Should the government draw some guidelines on the codes of practice from which other stakeholders should base theirs on.

A Yako - Horticultural industry has performed very well in Kenya because the government has allowed the industry to propel itself with minimum interference. This is believed by many to be the engine of the rapid development and expansion of the fresh produce exports in Kenya. However, Dr S K Mbaya feels that the government has a crucial role to play in regulation to ensure that quality coming from the country is not compromised by unscrupulous and irresponsible exporters, which will be viewed as a country problem rather than an individual exporter's problem. In agreement, Margaret Aleke of the KEBS felt that government guidelines are required and should be provided probably by KEBS.

**Paper 4                      Production & Marketing of Fruits and Vegetables in the US.**  
**Partricia Sterns.**



Patricia started by introducing MSU/Biosystems initiative on standards and grades as a response to the global interest in product safety and quality in the global markets.

### Issues in the US

- Production contracts dominate
- There has been a shift from a commodity to a value added orientation
- Price volatility and depressed prices
- Continued over production
- Changing consumer needs
- Trends affecting grades and standards
- Varied consumer trends high demand for fruits and vegetables driven by health concerns
- Shift in attributable preferences from appearance and taste
- Food safety concerns
- Microbial contamination concerns
- Pesticide residues

Q Mukindia - with majority of farmers being under contract farming ,why over production?

A -Harris - Contracts are for 25 - 50% not 100%. Overproduction due to anticipation of fetching higher prices elsewhere outside the contract.

A- Patricia - Farmers enter into contracts for income stability.

Farmers see contracts as necessary evils since quite occasionally, at the time of harvest, the product prices are higher than contracted prices

Q –Dr. Kimani - Are there regulations on imports into the US geared to protecting own production?

A -Agriculture has a positive balance of payment in the US leading to a point where they will export more than they import.

Q -Mercy Kamau - in the name of quality, how far do the producers lose and the consumer gains?

A-The consumer is king as long as the producer needs his business.

Q -Dr Mbaya - What are the consumers' reactions to genetically modified Fruits and vegetables

A Harris -Americans have varied reactions to GMOs

GM tomatoes with longer shelf life were not easily accepted because of poor or unfamiliar taste and texture characteristics. However grains, which are pest and disease resistant have been in the US market for a while.

Q Why are some of the products exported from US lower in price to importing country than locally produced products

A Dr. Ndiritu - because efficient production leads to lower production costs

Comment Vincent – The USDA and FDA are committed ensuring that foodstuffs offered to citizens, meet food safety regulations although they may not always be tasty. It serves well to remember that present-day consumers look for convenience minimum sophistication in processing required whilst products should be consumer friendly.

In summary, Mr. Gitu emphasized that there are benefits for producers to target a specific market.

### **Group Discussions based on the following topics:**

- 1 Production and Processing Constraints
- 2 Marketing Issues
- 3 Technical Support Services -

#### **Group 1          Production and Processing Constraints (Group 1) Presented by Mr. Chandran**

With liberalization there has been remarkable changes in the horticultural industry despite the following constraints;

Lack of proper funds for information in terms of quality and quantity

High cost of production: based on scale of production, high input cost i.e. fertilizers, pesticides. All this is made worse by:

- Declining economy.
- Markets controlled by a few major players.
- Conflicting information on quality levels in the export market prevalent e.g. could a customer take a bruised fruit that has no pesticides ?
- Harvesting – farmers will only harvest when resources are available
- Ethical issues – having no concern for the consumer or the producer
- Lack of proper planting materials in terms of quality and variety
- Lack of proper farm administration and record keeping
- Capital problems; to address the issue of quality, a lot of money is required and borrowing is very expensive in Kenya.
- Producers faced with stiff competition due to liberalization.
- Unfair market behaviour - Even under contract farming, producers reduce produce prices when there is over production
- Lack of infrastructure is also detrimental as the producer cannot easily access the market
- Insensitivity of the local market to quality - farmers not compensated for quality.

Question: Mylene Kheralla (IFPRI)

Who should provide quality information?

Answer: Dr. Mbaya (NCST)

Information collection is very difficult and should not be the sole responsibility of the Government.

**Comments:**

Mr. Musyoka (Woni):

Should have a neutral system because of outdated information from the government getting to the producers

Dr. Kimani (Pesticides & Agricultural Resource Center):

Lack of co-operation from the private sector who are not ready to volunteer information to Government personnel.

Mr. Harris Craig:

It is not necessary to establish a producers body?

P. Vincent Hegarty (MSU):

suggested role of media in information provision in markets

Mrs. Thuku (MOARD):

They have a branch at the Ministry of Agriculture. This department used to provide information to interested parties on a daily basis.

Mercy Kamau (Tegemeo Institute):

Media information is not reliable as they print different prices from ones enjoyed by the trader

Chris Mukindia (AGROM):

The information is available, the problem is dissemination of the information.

Mr. Harris Craig:

Information can be acquired through liaising with Embassies.

**Group 2          Marketing Issues (Group 2)**  
**Presented by Margaret Aleke**

Local Market - Products sold at urban market, open-air markets, green grocers and kiosks)

**Constraints**

- Transport problems
- Middle men who enjoy high profits
- Congestion in the market
- Lower product quality (damage) due to handling
- Chemical applications not addressed
- Lack of proper information
- Lack of knowledge and rights; consumer not aware of pesticide control level requirements
- Poor packaging of market products due to duty paid on packaging products

- Monitoring and enforcement not in place e.g. residual levels

### **Export Market**

- More organized
- Carry out analysis
- Carry out physical checks at the airport

HACCP should be in place for every producer

A regulatory body should ensure quality requirements are in place

Question: Eric Mwaura (Green Belt Movement)

Why Kales are not covered by standards

Answer: Margaret Aleke (Kenya Bureau of Standards)

If there are not, then safety issues in regard to Kales should be looked into.

Comments:

Dr. Ndiritu (University of Nairobi)

Felt that small-scale farmers should be grouped together and process at a regional level.

Mrs. Ngige (Biosystems Limited)

Horticultural key bodies have initiated this.

Dr. Kimani (P&ARC)

It is not enough for anyone to say they do water analysis without proper interpretation.

### **Group 3      Technical Support Service (Group 3) Presented by Mylene Kherallah (IFPRI)**

Private sector ahead of the Government

The private sector requires training of standards personnel

Implementation – too many actors with poor coordination

Awareness and dissemination – extension system lacking

### **Problems**

- Financial
- Lack of motivation

Question: Dr. Mbaya (NCST)

Could the other stakeholders be involved in the development of standards at KEBS

Answer: Margaret Aleke (KEBS)

KEBS are already liaising with other parties in the development of standards.

Development of Standards in Kenya is not taken as the sole prerogative of KEBS.

**Comments:**

Harris Craig

The Government should require Monitoring and surveillance. Enough is not currently done in Kenya.

Margaret Aleke (KEBS)

KEBS not aware of enforcement of standards in horticulture because of the assumption of the presence of other players. Concentration is on processed fruits and vegetables.

## SESSION 2

### Day 2: 16th August 2000

Recap by Njau Gitu

Food production in relation to economic performance

Production and export of fruits and vegetables

Codes of Practice

Production and export of F&V to US Markets

Group Discussions – 3 Groups

Dissemination of information quite poor as farmers/producers do not get quality information. This was the general consensus from all three groups

## PAPERS BRIEFS

Food laws in Kenya – KEBS

Monitoring on compliance of exports KEPHIS

Organic farming (ABLH) needs more serious emphasis

Green Belt Movement addressed issue of environmental conservation in relation to food security

FPEAK –Promoting standards for export market in the horticultural industry

Role of Ministry of Agriculture Promoting agricultural activities through increased production, information provision, coordinating various agricultural sectors, assisting producers in their marketing initiatives

### **Paper 5          Linking small scale farmers access to the international market Mylene Kheralla**

Benefits of supporting small-scale farmers

- Improved nutritional diets
- Upward cash income
- Upward access to input use and productivity
- Promotes food security
- Improved technical and management skills
- Diversifies commercialization channels
- Linkage of small-scale farmers to export markets
- Spot market
- Advocacy of out grower scheme
- Reliable and timely outlet of their products
- Reliable and timely supply of inputs
- Reduced transaction costs

- Reduced price risk and transaction costs
  - Quality and standards met
  - Competition among traders
  - Well established network of traders
  - Little alternative supply of raw materials
  - Small-scale access to market information
- Small scale share of production has declined (18%) – losing out in export market  
Fruits & vegetable industry dominated by foreigners

### **Constraints**

- Financial – need credit . Characterized by high loan default
- Infrastructure – poor roads especially in the rural areas
- Lack of storage facilities
- Poor post harvest handling conditions to increase their market share
- Poor Information provision e.g. lack of proper pesticide application rates and methods

### **Remedies**

- Investment in research
- Investment in extension
- Small scale farmers access to market information
- Enforcement of contracts with farmers
- Access alternative markets – markets not dominated by sophisticated dealers in terms of quality standards e.g. middle East markets

Question: Mercy Kamau (Tegemeo Institute)

Majority of small-scale farmers sell to supermarkets and feels that 30% export market is quite low.

Answer: Mylene indicated that these were the only figures available.

## **Paper 6            Overview of Scientific & Research of Fruit & Vegetables in Kenya Dr. John Mbaya (National Council for Science & Technology)**

F&V industry is very dynamic. National Council & Science and Technology coordinated all research issues in Kenya.

Major government policy is to alleviate poverty. In 1970's the horticultural industry was in the hands of small scale producers, cooperative and a few large scale producers

Majority of producers export all the fruit and vegetable and do not consume any. This has been confirmed by high malnutrition levels. Horticulture is the most viable growing sector in agriculture. More emphasis should be in F&V because of their nutritional status. F&V marketed as fresh or processed products apart from the conventional production methods, there are other new techniques:

- Biotechnology – genetic engineering
- Tissue Culture
- Transgenic fruit and vegetable available on the international markets

People worried of GMO products because of health implications

Kenya lacks personnel/equipment to detect GMO products

Q. MR. Mukindia - How is grading and standardization of GMO's done

A. Mary - Monitoring and evaluation carried out by inspectors at Nairobi and Mombasa (entry points)

### **Suggested Remedies**

- Advocacy for indigenous vegetables
- There should be less emphasis on exotic fruit and vegetable
- Opening up new Marketing channels
- Include social and economic aspects
- Research on effects of handling grades and standards at marketing points

### **Policy Issues**

Policies have changed because of economy liberalization giving more power to private sector through SAP's, Government is pulling out and empowering the private sector

Structural Policies

Agricultural policy – National Food Policy

Horticultural policy not yet finalized, however, it gives emphasis on export market.

All researchers have to be cleared to carry out research in Kenya

Research should be in the interest of Kenya

NCST Very strict on bio-safety regulations

### **Constraints**

- Adoption of research recommendations
- Research has not been very relevant to the producers
- Poor implementation of government policies due to bureaucracy and financial constraints
- Low government allocation for research

### **How to increase production of F & V**

- Use of fertilizers
- Use of new high yielding variety recommendations
- More research
- More training

Question: Vincent Hegarty (MSU)

What applications have been made to the Government on GMO's and labeling policy?

Answer: Dr Mbaya

Could remember sweet potatoes, BT maize and tomatoes with longer shelf life

Labeling is a strict requirement from the Government on GMO's, to ensure that the consumer can choose what producers have.

### **Comments**

Mrs. Thuku (MOALM)

There is an extension research body in the MoA hence there is a proper linkage between research and extension

Dr. Mbaya (NCST)

Concurred that researchers could not be addressing real problems affecting producers. NCST is identifying research priorities

Margaret Aleke (KEBS)

KEBS is constituting technical committees on GMO's to address safety issues

Mr. Mwaura (GBM)

Is there a correlation between the bio-safety committee and the one from KEBS

Margaret Aleke (KEBS)

The committee at KEBS has set standards for GMO's and will look at whether they have any health implications for human populations

Q. Mr. Chris Mukindia (AGROM)

Since one of the roles of NCST is to advice the Government, what has it done to ensure that the farmers receives technical information

A. Dr. Mbaya (NCST)

The Government has already placed KARI under MOA.

Alex Thiru (Gakumbi Limited)

GMO's have international implications, why has Kenya accepted GMO's without a national consensus.

Mercy Kamau (Tegemeo Institute)

GMO's should be discouraged in Kenya. They are a threat to human health.

Dr. Mbaya (NCST)

NCST has had three workshops to create awareness on GMO's where major NGO's were represented

Dr Ndiritu (UON)

BT maize is already being grown in Kitale. More caution on use on GMO's required.

Mercy Kamau (Tegemeo Institute)

GMO's spread by technical staff carrying out research to propagate at their farms and spreads to neighbors

Dr. Mbaya (NCST)

NCST asking applicants what measures they have taken to ensure that these do not get out of research stations

Dr. Ndiritu (UON)

Suggested that a quarantined system to be introduced



Mrs. Ngige (Biosystems)

Informed participants that quarantine does not always work and gave an example of agrobacterium which has spread all over because of systems failure to work.

Dr. Kimani (PARC)

A lot is being done to ensure that there is no leakage of GMO's

Mr. Gitau (Biosystems)

Appealed for institutions in charge to ensure that Information gathered is properly disseminated

Mercy Kamau (Tegemeo Institute)

**Paper 7            Activities of Tegemeo Institute of Egerton University  
Presented by Mercy Kamau**

Tegemeo works in collaboration with:

MSU on food security

Ford Foundation on sustainable agriculture

Targets policy makers in Kenya, producers, lobby groups who may require information after carrying out surveys. Has 2 senior researchers and 3 research fellows

Carries out research on 1700 households co-funded by USAID

1994 the institute addressed cost of producing in horticulture and diversification

1999 addressed produce and marketing systems in horticulture, opportunities and constraints

Collecting data / information on the local market

Question: Mr. Craig (MSU)

What are the major problems on standards and grades in regard to fruit and vegetables?

Answer: Mercy Kamau (Tegemeo Institute)

Lack of information on the side of the producers

Question: Mr. Craig (MSU)

Has there been an incident where some producers are excluded from a local market because of standards

Answer: Mercy Kamau (Tegemeo Institute)

Some producers have been excluded from lucrative markets due to non-compliance

Comment

Mrs. Ngige (Biosystems)

A lot of exporters are going into their own production because of failure by out-growers to meet set standards resulting in the out growers being excluded from lucrative markets.

Dr Mbaya (NCST)

Government opening up to the private sector. NCST can be contacted directly on any issue touching on policy. NCST is developing a web site to improve information dissemination

Question: Dr. Mbaya

Does Tegemeo Institute have a web site for information dissemination?

Answer: Mercy Kamau (Tegemeo Institute)

Yes, Tegemeo is developing a web site. Please note that their role is primarily in research and advocacy. After research, Tegemeo holds stakeholders workshop to disseminate research findings.

Question: Alex Thiru (Gakumbi Limited)

What is the criteria used for determining areas of research

Answer: Mercy Kamau (Tegemeo Institute)

Tegemeo in collaboration with stakeholders identify priority areas.

Margaret Aleke (KEBS)

Are exporters contracting out growers offering extension services to ensure that out growers are not cut off because of failure to meet standards?

Mercy Kamau (Tegemeo Institute)

Majority of the exporters specialize in information in regard to safe use of pesticides literally ignoring other issues farmers require

Dr. Mbaya (NCST)

Some international organizations e.g. ICIPE, ILRI have no mandate to go to the field to disseminate information to the our growers

Mercy Kamau (Tegemeo Institute)

Information dissemination done through stakeholder's forums

Mr. Chandra (Farmer/Producer)

Consumers are more interested in mangoes with certain fibre content. This tends to exclude some producers from the international market

Fruits & Vegetables Standards and Grades Technical Workshop

Mrs Thuku The Ministry of Agriculture (MOA) also has a department of home economics which broadens addressing the farmers' needs.

Q Craig: Where can statistics from MOA be located?

A Mrs Thuku: Data collected by Front Extension Workers is submitted to the location level and all the way to the headquarters. At the headquarters, an annual report is developed.

Comment - Mercy appreciates the comprehensive data from MOA. Liaison with other bodies especially on training is very crucial. There should be a coordination between all bodies working in the field for more effectiveness. Government should lead in liaison.

Comment - Rhoda Wairimu (Kibirigwi Scheme) - Started horticultural production in 1968 of cabbages, pepper and tomatoes They had no marketing groups but used to sell to middle men. Had a good business by then.

Later a firm was opened at Karatina to supply to Nairobi. Good business but it closed down.

Later another group was formed which offered training The group felt the need for formation of a buying agency (ies). Highland Cannery entered into five years contract. They were buying the produce at very good prices but left after 5 years. MOA did a very good training on farming. The schemes performance has been declining especially because of poor marketing channels as well as declining prices.

NGOs wisdom.

Feel NGOs could assist a lot. NGOs used to provide loans which greatly benefited to farmers.

## **Paper 8            International trade in fruits and vegetables, opportunities and constraints in case studies. Alex Thiru**

Horticultural cooperative union was the forerunner of HCDA. Horticultural production in Kenya currently stands at 30,000,000 tonnes and exports are 98,000 tonnes. Has grown for the last 3 years about 66 times exporting about 4% of the total production. 45% of the horticultural production goes to waste. Kenya has a reasonable processing capacity mainly in canning, freezing and little capacity in drying.

Problems in processing

- Intermittent supply of raw materials.
- Mainly done for export market.

Kenya is a leading supplier of fruits and vegetables in the world. It is also a leading supplier of Asian vegetable in European and middle East markets.

Kenya also exports pineapples to Europe but high air costs hinder fruit and vegetable export hence the need to explore transport by water. Growth of the industry is indicated by exports and newcomers

200MT of horticultural produce is shipped out everyday at the airport. However, Kenya still has un-exploited potential. The major Kenyan markets are European, Middle East and regional markets. The market share of fruits is: European union 70%, Middle East 17.5%, others 12%.

### **Constraints**

- I. Inadequate infrastructure
- II. Regulatory and trade regimes
- III. Legal environment
- IV. Trade cost too high- average price of fine beans is 226 Ksh / kg, passion fruit is 339/= /kg
- V. Air freight too expensive.

### Recommendations

- Enhanced use of water transport. This will result in shipping higher volumes and higher profits.

- Costing and pricing of fruits and vegetables

Has already favoured the exporter income delivered by exporters about 25- 77 % of wholesale price. The Producer is at the mercy of the exporter. Exporters form a cartel fixing prices.

- suggests formation of a farmers' companies to be administered at commercial level where they should hire skilled manpower in the view of the fact that majority of the producers do not have agricultural training. Farmers organizations could be assisted by national bodies such as FPEAK.

There are other trade barriers.

Sustainability of trade regimes remains a critical issue.

- More advocacy and lobbying is required in regard to International trade e.g. in the EU legal environment needs enhanced legal guidance and capacity building.
- Arbitration system suggested
- A lot of resources required

Summary of Recommendations

- 1) Expansion of sea trade
- 2) Exploit potential areas
- 3) Fruit canning, processing and drying
- 4) Emphasis on niche markets.
- 5) Regional and island markets.

European union imports about 5 million tonnes of bananas from Kenya.

Kenya exports 200 tonnes of banana /yr.

Mangoes exports are about 4000 tonnes / yr. 16 5% of the total fruits exports.

Avocado 9,232 tonnes (1990) 59.2 % shipping by sea has been successful. Increased vegetable canning and freezing is about 23,000 tonnes.

Drying technologies should be expanded because people are very choosy on foods today to provide products which are in demand when required.

There is need for a national centre to coordinate activities in the horticultural sector which should also provide information on market trends.

Q Mylene - Are there any producers in the web site?

A Alex - Yes

A Chandran -is it true that it cheaper to transport from S. Africa to Europe than from Nairobi.

A Alex - Yes because of the South bound cargo

Comments

Mary - Legal frame work requires more emphasis especially because of great losses experienced by exporters

Mercy - pay more interest in letter of credit. For farmers to form companies, they require a lot of information. Majority of the horticultural producers are well educated and knowledgeable.

Q Mercy - International trade treaties - who benefits ? Farmers do not benefit from the Zero(0) tariffs.

A Alex - Higher profit margins are not enjoyed by the producer. They do not know what prices their products fetch at the European markets.

Comment: Dr. Ndiritu - Farmer groups benefits from expert services where farmers are contracted and agree to pay for professional services and charges are subtracted from their earnings.

Comment -

Gladys: Wamu investments (outgrowers) has benefited from FPEAK training on standards and grades.

Q. Dr. Kimani: Practicality of forming farmers group companies?

A. Alex - Necessary to reduce in fighting. Suggests rotation of directors

Dr. Mbaya: Supports registration of a company to gain legal status

Gitu. - Support formation of lobby groups.

## **Paper 9      The Role of NGO's in Development and Implementation of Standards. Dr. John Huria Ndiritu**

A large number of NGO'S in Kenya are involved in training and extension services in conservation/ organic/ sustainable agriculture. Association for Better Land Husbandry (ABLH) is the only NGO that has developed standards.

The organization has developed conservation supreme standards and a code of practice that allows a minimum application of organic fertilizers and synthetic pesticides.

ABLH has adopted organic standards for Kenya. These organic standards being applied in Kenya by ABLH in collaboration with soil has been able to certify some organic growers e.g. Sulmac, Kenya Nut LTD, Meru Herbs. Organic producers are targeted for the export market which is very high in Europe.

Besides ABLH, a trust called conservation trust of Kenya (CATOK) has been formed specially to promote organic certification and do certification in the country.

CATOK is a new body that requires a donor support before they can be self-sustaining after collecting certification fee from growers.

The government for production of export produce should promote promotion of organic agriculture. The government should encourage the formation of local certification of companies in the European union and other countries.

It should also promote those certification companies in Europe and other importing countries.

Small holders should be encouraged to grow organic produce for export. The small holders should group themselves so that they meet the standards for organic production.

## **GROUP DISCUSSIONS**

Major issues and recommendations

Dr. Virginia Kimani - The main issue that requires to be addressed is information dissemination. There should be insistence on quality information. It was suggested that producers as well as processors should form associations or commodity commissions. There should be proper commodity maintenance on check off

Advocacy and lobby groups (which should be those required )

Expanded markets should be points of focus - diversify from European market .

There should be a lot of emphasis on training i.e. the training should target groups like  
 -Ministry of Agriculture extension officers especially in high potential horticultural producing zones

HCDA personnel -formal training at institutions of higher learning like universities for undergraduate and post graduate levels.

-Proper post harvest technologies should be well trained on.

Q. Craig Harris : Can you identify where the 45% loss in production of F &V occur ?

Comment. Dr. Kimani: There should be a review of the databases.

### **Accreditation Scheme**

Presentation by Margaret Aleke

Distinguished between certification and accreditation. For a firm to be accredited it has to meet some minimum requirements .

Certification has been be very expensive especially because personnel has to be invited from abroad . Most firms cannot afford it .

It is necessary to have KEBS accredited so it could accredit other bodies like FPEAK, HCDA, etc. This could be crucial to act as a marketing tool for F/V especially in the E.U market .The capacity of various bodies should be strengthened e.g.

-KEBS has the capacity to tackle standards & grades but Requires to be improved.

-KARI -has capacity but requires re-direction.

-HCDA - has no capacity to tackle standards and grades . Needed to be built

-KEPHIS -has no capacity . Needed to be built.

Suggested capacity building on standards and grades at formal level.

Q. Craig Harris :Does KEBS have enough capacity in terms of equipment ?

R. Margaret: Specialized equipment required.

### **Comments**

Dr. Ndiritu: There should be introduction of short courses at the university focusing on standards and grades as the current training is very general.

Mrs. Ngige:-Emphasized the need for formal training .

Mercy: Suggested more research on training needs to develop the proper package .

Vincent: Suggested a more integrated approach to addressing problems in F/U industry in Kenya .

Alex: Exploit niche markets.

Mary Githinji: Supported collaboration between the different quality assurance bodies like KEBS ,KEPHIS etc

### **Way Forward**

- i) Information dissemination a priority NCST coming up with a format for information dissemination
- ii) Collaborative approach between the various players in the industry.
- iii) Formal and informal training at various levels for MOA,HCDA,KEBS AND KEPHIS Farmer organizations, private consultants etc. This could be crucial in building desired capacity.
- iv) Workshop recommendations should reach higher Government levels at the Ministers office. If possible the recommendations should be gazette and embraced as policies. Future forums should involve personnel from higher government levels .

- v) Organizations of alternative and complimentary forums to ensure information generated reached the target group especially producers, processors and exporters.
  - vi) Accreditation services critically required in Kenya to make certification easier and cheaper for Kenyan producers i.e. rationalization programs
  - vii) Research bodies should identify research areas priorities e.g. Tegemeo. The 45%-60% loss in horticultural crop production occurs at what stage of the production chain.
  - viii) Man power Development -Apart from in house training programs for people already in the industry (production and maintaining grades and standards),The universities should initiate specific courses in this area to produce more specialized personnel.
  - ix) Regeneration of agricultural policy with the aim of reinvigorating and redefining the sector.
  - x) Development of national Codes of Practice. If possible, the codes should focus on specific crops. There is need to define standards for different sectors in horticulture for:
    - a)product
    - b)service
    - c)processing
- Institutional standards for brokers, society are required. There should also standards addressing ethical and environmental issues. Standards and grades should be seen to:
- a)Enhance efficiency and provide reference
  - b)Equity, well being available to members of society for wholesome nutritious food.
  - c)Opportunities for empowerment and livelihood.
  - d)Fair access to opportunities that a nation should provide to nationals.
- xi) Exploring alternative marketing channels with special emphasis on sea transport.

### Comments

Craig: There requires proper definition of standards and strengthening of institutions which re players in standards and grades.

Mercy: Tegemeo is ready to collaborate with other players in Standards and Grades .in F/U. The Workshop deliberations should reach high Government officers to facilitate recommended implementation. The recommendations should not be shelved like other reports.

Dr. Ndiritu: The University of Nairobi is open to interested parties who could offer short courses on standards and grades. This could be crucial to develop the right standards and grades and maintain them.

Dr Mbaya: Emphasized the need for a collaborative approach as well as a more active role by the private sector.